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A critical checklist of the vascular flora of Tuscan Maremma (Grosseto province, Italy)

Abstract

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The Tuscan Maremma is a historical region of central western Italy of remarkable ecological and landscape value, with a surface of about 4.420 km² largely corresponding to the province of Grosseto. A critical inventory of the native and naturalized vascular plant species growing in this territory is here presented, based on over twenty years of author's collections and study of relevant herbarium materials and literature. The checklist includes 2.056 species and subspecies (excluding orchid hybrids), of which, however, 49 should be excluded, 67 need confirmation and 15 have most probably disappeared during the last century. Considering the 1.925 confirmed taxa only, this area is home of about 25% of the Italian flora though representing only 1.5% of the national surface. The main phytogeographical features in terms of life-form distribution, chorological types, endemic species and taxa of particular conservation relevance are presented. Species not previously recorded from Tuscany are: *Anthoxanthum ovatum* Lag., *Cardamine amporitana* Sennen & Pau, *Hieracium glaucinum* Jord., *H. maranzae* (Murr & Zahn) Prain (*H. neoplatyphyllum* Gottschl.), *H. murorum* subsp. *tenuiflorum* (A.-T.) Schinz & R. Keller, *H. vasconicum* Martini-Donos, *Onobrychis arenaria* (Kit.) DC., *Typha domingensis* (Pers.) Steud., *Vicia loiseleurii* (M. Bieb) Litv. and the exotic *Oenothera speciosa* Nutt.

Key words: Flora, Phytogeography, Taxonomy, Tuscan Maremma.

Introduction

Inhabited by man since millennia and cradle of the Etruscan civilization, Maremma is a historical region of central-western Italy that stretches, in its broadest sense, from southern Tuscany to northern Latium in the provinces of Pisa, Livorno, Grosseto and Viterbo. The heart of this region, however, corresponds to the Grosseto province, the largest in Tuscany. A physical environment mostly hostile to human activities has caused this land to remain historically far less developed and populated than others in Italy, but has contributed to the preservation of its natural ecosystems. Coupled with a remarkable environmental variability in terms of geomorphology and climate, this makes the plant cover of Tuscan Maremma rich and attractive. Until a recent past, however, unfavourable conditions of access and life have not stimulated botanical studies in this area, so that its flora

has long remained poorly known (Moggi 1972). After the early and pionieristic botanical explorations by Santi (1795-1806) and Savi (1808-1825), most important contributions were by Sommier (1892a,b) and Fiori (1920, 1929). The collections of these authors, conserved in the *Herbarium Centrale Italicum* (FI), provide the bulk of our botanical knowledge on this area. In more recent times, a growing number of floristic inventories have been compiled especially for nature reserves or other sites of particular relevance, increasing considerably our knowledge on plant diversity of this area. As noted by Angiolini & al. (2005), however, large parts of the territory still remain largely unexplored, though still harbouring well preserved natural habitats.

Aim of this contribution is to provide a first critical checklist of the vascular flora of Maremma, based on over twenty years of collections and field observations integrated with the study of herbarium materials and relevant literature. Though possibly still incomplete, this inventory aims at summarizing and increasing knowledge on a heritage of plant diversity that is suffering the growing human impact on natural ecosystems and landscape. Only with scientific research and an increased awareness in the local people and public administrators it will be possible to preserve this heritage and the natural charm of this land.

Delimitation and sectors of the study area

Since the times of Dante Alighieri, the term “Tuscan Maremma” is traditionally used to indicate the coastal and subcoastal plains and hills of central and southern Tuscany, from the lower river Cecina valley in the Pisa province to the border with Latium. The area covered by this study corresponds to the continental part of the Grosseto province, and includes the eastern slopes of the volcanic massif of Mt. Amiata in the Siena province (Fig. 1). It has a surface of about 4.420 km² and extends from the upper Cecina valley at the north (43° 11' N) to the mouth of river Chiarone at the south (42° 23' N), and for about 80 km from the coast of Punta Ala at the west (10° 44' E) to the valley of the river Paglia, a tributary of the Tiber, at the east (11° 45' E). It does not include the islands of the Tuscan Archipelago and Monte Argentario, itself a former island that became connected to the mainland only in prehistorical times through the formation of the narrow isthms (“tomboli”) of Giannella and Feniglia.

The Tyrrhenian coastline of the study area stretches over about 120 km, while the eastern and northern boundaries follow the valley of the river Ombrone and those of its tributaries Farma, Merse and Orcia. More to the south, the Grosseto and Siena provinces are separated by the volcanic massif of Mt. Amiata and the mountains between the valleys of the rivers Paglia and Fiora. To the south, the Tuscan Maremma borders with the so-called “Tuscia” of the Viterbo province in Latium, often following the narrow and deep valleys carved by the tributaries of the Fiora river in the soft, volcanic rock produced by the Vulsinian mountains in the late Pliocene.

The Grosseto province is characterized by a prevalence of large hill systems separated by the valleys of the main rivers and their tributaries; from the north to the south these are Cornia, Bruna, Ombrone, Albegna and Fiora. Large plains formed by the Pleistocene and Holocene alluvial sediments of the above rivers occur along the coastal belt, especially the Bruna, Ombrone and Albegna. Here, the coastline is flat and sandy, while it becomes high

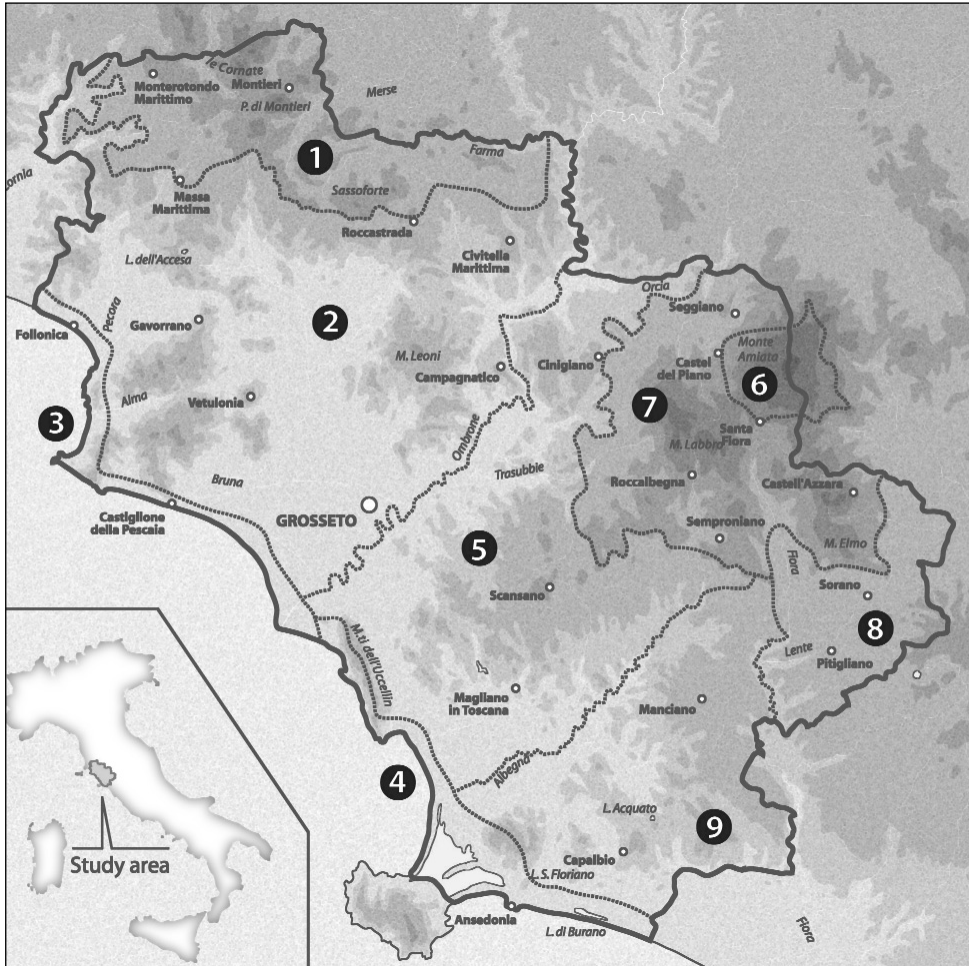


Fig. 1. The area of Tuscan Maremma as delimited in this work, corresponding to the province of Grosseto. The eastern slopes of Mt. Amiata (Siena province) are included, while islands of the Tuscan Archipelago and the promontory of Mt. Argentario are excluded from the study area. Numbers indicate the nine phytogeographical sectors of the area.

and rocky in the stretches directly connected to the internal hill systems. The main reliefs lie in the northern and especially eastern parts, where the volcanic dome of Mt. Amiata is the highest elevation in the province (1.738 m).

The detailed geomorphological traits of the territory are outlined in Lazzarotto (1993), while the main climatic features of southern Tuscany are summarized in Barazzuoli & al. (1993). An important phytoclimatic outline was given by Arrigoni (1972).

The vegetation of Maremma includes coastal psammophytic communities, wetlands, halophytic vegetation of salt marshes and lagoons, coastal scrub with *Juniperus* sp.pl.,

extensive evergreen woods dominated by the holm-oak and the cork-oak, more or less degraded macchias, garrigues and heaths, deciduous forests dominated by oaks, scrub and mountain beech forests. Traditional agricultural landscapes and pasturelands still cover a considerable surface. A synoptical view of the main vegetation types is given in Table 1, where 12 formations and 44 phytosociological classes in the EUNIS Europaen system (Rodwell & al. 2002) are reported according to their occurrence in the nine phytogeographic sectors of Maremma, as shown in Fig. 1. These are based on the geomorphological and phytogeographical features of the territory and have been adopted for the purposes of the present floristic investigation:

- 1: Northern montane sector.** It includes the northern part of the Grosseto province, characterized by an extensive system of high hills and low mountains known as “Colline Metallifere”. It stretches from the Cornia valley at the west to the junction between the Farma and the Merse rivers at the east, and is formed by a broad variety of geological formations and lithological types. The highest elevations are the calcareous ridge of “Le Cornate” (1.059 m a.s.l.) and the sandstone massif of Poggio di Montieri (1.051 m).
- 2: Northern hill-planitial sector.** It stretches from the basin of the Pecora river at the north to the mid and low valley of the Ombrone at the south, comprising the hill systems of the Bruna basin and the alluvial plains of the ancient *Lacus Prilius* north of Grosseto. The highest elevations are the siliceous hills of Poggio Ballone (631 m) and Monte Leoni (616 m), located respectively at the north and south of the Bruna river.
- 3: Northern coastal sector.** It corresponds to the coastal strip from Follonica at the north to the Uccellina hills at the south, including the mouth of the rivers Pecora, Bruna and Ombrone. It is about 65 km long and is formed by stretches of high and rocky coast of mostly siliceous nature, alternating with stretches of low and flat coast with well developed dune systems and lagoons. Phanerogams growing in shallow marine waters were included in the floristic inventory.
- 4: Southern coastal sector.** It runs for about 55 km from the Uccellina hills to the mouth of the Chiarone river (the regional boundary) at the south. Stretches of rocky, mostly calcareous coast alternate with flat, sandy segments where important dune systems and wetlands are conserved. Phanerogams in the Orbetello lagoon and in marine waters along the coast are included.
- 5: Central hill-planitial sector.** It covers the central part of the province, which is mainly occupied by the reliefs up to 600 m a.s.l. that divide the valleys of the Ombrone at the north and the Albegna at the south. Sandstone and calcareous-clayey formations are prevalent. To the northeast, this sector reaches the valley of the Orcia river before its junction with the Ombrone.
- 6: Volcanic area of Mt. Amiata.** It corresponds to the volcanic massif Mt. Amiata, originated in the Pleistocene and formed by acidic lava rocks (trachytes). It rises up to 1.738 m a.s.l. and lies at the eastern boundary of the Grosseto province. Though falling in the Siena province, the eastern slopes of the mountain are also included in the study area.
- 7: Eastern montane sector.** This is a rugged territory enclosing the mainly calcareous mountain systems surrounding Mt. Amiata to the west and south. The most important elevations are Mt. Labbro (1193 m) and Mt. Civitella (1107 m), lying to the west and east of the Fiora valley, respectively.

Table 1. Formations (12) and classes (44) of vegetation represented in Tuscan Maremma according to the Eunis system (Rodwell & al. 2002), and distribution in the nine phytogeographical sectors adopted in this work

| Formations and classes | | sectors | | | | | | | | |
|---|---------------------------------------|---------|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| A: coastal mud flats and brackish waters | | | | | | | | | | |
| 01 | Zosteretea | | | + | + | | | | | |
| 02 | Ruppiaetea maritimae | | | + | + | | | | | |
| B: salt marsh, sand dune and sea-cliff vegetation | | | | | | | | | | |
| 04 | Thero-Salicornietea | | | + | + | | | | | |
| 05 | Juncetea maritimi | | | + | + | | | | | |
| 06 | Saginetea maritimae | | | + | + | | | | | |
| 07 | Salicornietea fruticosae | | | + | + | | | | | |
| 09 | Chritmo-Staticetea | | | + | + | | | | | |
| 10 | Cakiletea maritimae | | | + | + | | | | | |
| 12 | Ammophiletea | | | + | + | | | | | |
| C: rock crevice, scree, and boulder-field vegetation | | | | | | | | | | |
| 13 | Asplenietea trichomanis | + | + | + | + | + | + | + | + | + |
| 14 | Adiantetea | + | + | | | + | | + | + | + |
| 16 | Thlaspietea rotundifolii | + | | | | | | + | | |
| D: freshwater aquatic vegetation | | | | | | | | | | |
| 17 | Lemnetea | | + | + | + | | | | | + |
| 19 | Potametea | | + | + | + | | | | | + |
| E: spring, shoreline and swamp vegetation | | | | | | | | | | |
| 21 | Isoeto-Littorelletea | | + | + | + | | | | | + |
| 22 | Isoeto-Nanojuncetea | | + | | | | | | | + |
| 23 | Phragmito-Magnocaricetea | | + | + | + | + | | | | + |
| G: temperate grasslands, heath and fringe vegetation | | | | | | | | | | |
| 26 | Molinio-Arrhenateretea | + | + | + | + | + | + | + | + | + |
| 28 | Festuco-Brometea | + | + | | | + | | + | | |
| 29 | Koelerio-Coryneporetea | + | + | + | + | + | | + | + | + |
| 30 | Calluno-Ulicetea | + | + | | | | | | | |
| 31 | Trifolio-Geraniea sanguinei | + | + | | | + | + | + | + | + |
| H: dry grassland and semidesert | | | | | | | | | | |
| 32 | Helianthemetea guttati | + | + | + | + | + | | + | + | + |
| 33 | Thero-Brachypodietea ramosi | | + | | + | + | | | | + |
| I: oromediterranean grasslands and scrub | | | | | | | | | | |
| 37 | Festuco hystricis-Ononidetea striatae | + | | | | | | | + | |
| K: mediterranean garrigues and maquis | | | | | | | | | | |
| 50 | Cisto-Lavanduletea | | + | + | + | | | | | + |
| 51 | Cisto-Micromerietea julianae | | | | + | | | | | + |
| 52 | Quercetea ilicis | + | + | + | + | + | | + | + | + |
| L: temperate broadleaf forests and scrub | | | | | | | | | | |
| 53 | Salicetea purpureae | + | + | | | + | | + | | |
| 54 | Populetea albae | + | + | + | + | + | | | | + |
| 55 | Alnetea glutinosae | + | + | | | | | | | + |
| 56 | Franguletea | + | + | | | + | | + | + | + |
| 57 | Nerio-Tamaricetea | | | + | + | | | | | |
| 58 | Rhamno-Prunetea | + | + | + | | + | + | + | + | + |
| 59 | Quercu-Fagetea | + | | | | | | + | + | + |
| 60 | Quercetea pubescentis | + | + | + | | + | | + | + | + |
| 61 | Quercetea roboris | + | | | | | | + | | |
| M: montane heath | | | | | | | | | | |
| 66 | Vaccinio-Piceetea | | | | | | | + | | |
| N: weed communities | | | | | | | | | | |
| 67 | Stellarietea mediae | + | + | + | + | + | | + | + | + |
| 68 | Polygono-Poetea annuae | + | + | + | + | + | | | + | + |
| 69 | Artemisietea vulgaris | + | + | + | + | + | | | + | + |
| 70 | Galio-Urticetea | + | + | | | + | | + | + | + |
| 71 | Epilobietea angustifolii | | | | | | | + | | |
| 72 | Bidentetea tripartitae | + | | | | + | | + | | + |

- 8: Volcanic vulsinian sector.** Located at the southeastern boundary of Tuscany in the basin of the Fiora river, it is mainly formed by large plateaus of the so-called “tufo”, a soft and light, acidic rock that originated from the aerial activity of the Vulsinian volcanoes in the late Pliocene and early Quaternary. The volcanic plateau is interrupted by deep, narrow valleys carved by the water courses flowing to the Fiora river, among which Lente and Nova are the most important.
- 9: Southern hill-planitial sector.** It stretches from the mid and lower valley of Albegna at the north to that of Fiora at the south, reaching the boundary between Tuscany and Latium. A mixture of plains and low hill systems of various geomorphological nature is typical of this territory. Small lakes of mostly karstic nature around Capalbio and Manciano are one of the most interesting features of this territory.

The flora of Maremma in numbers

The checklist presented here includes 2.056 specific and subspecific taxa, of which 49 should be excluded (“*excludenda*”), 67 need confirmation and 15 have most probably gone extinct during the last century. The confirmed taxa, native or naturalized, are therefore 1.925, of which 36 pteridophytes *sensu lato*, 13 gymnosperms and 1876 angiosperms (465 monocots). The most diverse families are *Asteraceae* (12.3%), *Poaceae* (10.6%) and *Fabaceae* (9.6%).

These numbers show that the Grosseto territory is home of about 25% of the Italian vascular flora (based on Conti & al. 2005), though representing only 1.5% of the national surface; at the regional level, it covers ca. 18.5% of Tuscany and includes ca. 55% of its flora. Since the latter is regarded as the richest regional flora in Italy (ca. 3.400 taxa, Conti & al. 2005, 2007), it is possible to infer the importance of this area for the conservation of plant diversity in the country.

Life-form distribution

The flora includes nearly the same proportions of therophytes (T: 34.3%) and hemicryptophytes (H, including biennial forms: 34.7%), so that the H/T ratio approaches to 1 (Table 2). This reflects a basically Mediterranean bioclimate with marked oceanic to subcontinental influences in the northern and eastern parts of the province, in line with the position of south Tuscany inbetween the Mediterranean and the Eurosiberian regions. Broad variations occur among of the nine sectors, underscoring the different bioclimatic features of the different parts of the Grosseto province. The highest values of H/T ratio are typical of the cooler sectors, especially the northern-montane and Mt. Amiata (e.g., flora of the Farma valley: 1.7), while the lowest are restricted to the southern parts with a typical Mediterranean climate, such as the southern coastal sector (flora of Burano lake: 0.6). Some parts of Maremma lie therefore entirely within the Meso-Mediterranean region (sectors 2 and 3) while others are included in the Mid-European one (1, 6 and 7). The sectors 2, 5 and 9 “contain” the bioclimatic transition between the two regions, as also shown by

the widespread occurrence of woodlands formed by a balanced mixture of evergreen sclerophylls and broadleaf deciduous trees and shrubs.

Geophytes represent ca. 15% of the total, followed by phanerophytes (ca. 9%), chamaephytes (4.8%) and hydrophytes (2.3%).

Phytogeographical elements

The present analysis is based on chorological elements defined according to the supra-regional classification by Takhtajan (1986) and to the synthesis of the European sub-regional units by Arrigoni (1973, 1983). The nine basic chorotypes are summarized in Fig. 2. The most important ones are the Mediterranean *sensu lato* (over 30% of the total) and the European-Mediterranean (c. 29%), confirming the position of south Tuscany at the border between the Mediterranean and European regions. The strictly circum-mediterranean taxa are ca. 15%, while well represented sub-elements are the W Mediterranean and the Mediterranean-Atlantic (together ca. 10%), mostly concentrated in the coastal and planitial sectors. The transition is underscored by remarkable proportions of Boreal and Eurosiberian taxa, that show the highest frequency in the northern and eastern mountain sectors (1, 6 and 7).

The South European orophytic and alpine-apenninic taxa represent only 3%, in line with the lack of important mountain systems. Mediterranean-montane and apenninic species are concentrated in the eastern montane sector (7) due to the presence of mainly calcareous mountains with a remarkable extent of open habitats, rocky outcrops and dry pastures. Characteristic species of this sector are montane xerophytes with basophilous preferences, such as *Tragopogon samaritani*, *Delphinium fissum* and *Centaurea rupestris*.

Endemic taxa, including those distributed in the Apennines (20) and the Provençal-Ligurian-Tyrrhenian area (9), are only ca. 2.6% of the total (Tab. 3). However, the flora of Maremma is characterized by six narrow-ranged endemics that almost entirely restricted to south Tuscany, e.g. *Limonium etruscum*, *Viola etrusca*, *Crocus etruscus*, *Armeria saviana*, *Centaurea aplolepa* subsp. *cosana* and *Santolina etrusca*. Other endemics have a slightly larger range extending to neighboring parts of Tuscany and/or Latium, Emilia-

Table 2. Main growth-forms (relatively to the confirmed flora, 1925 taxa).

| | n° | % |
|-------------|--------|------|
| T | 660 | 34.3 |
| H + H bienn | 593+76 | 34.7 |
| G | 287 | 15 |
| NP + P | 45+128 | 9.0 |
| Ch | 93 | 4.8 |
| I | 44 | 2.3 |

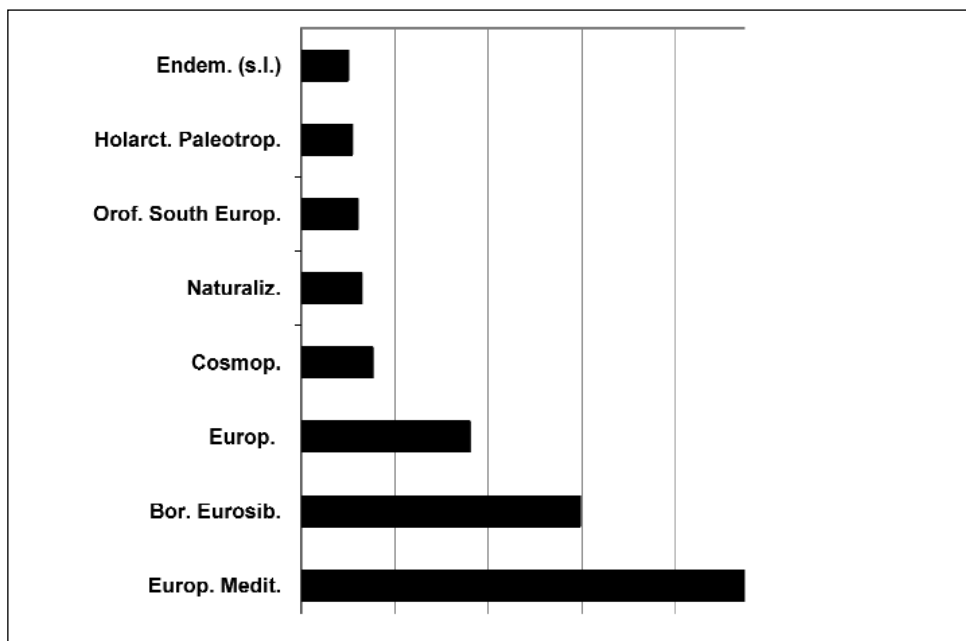


Fig. 2. The main phytogeographical elements of the flora of Maremma.

Romagna and Liguria; examples are *Stipa etrusca*, *Ornithogalum etruscum*, *Gagea tisoniana*, *Biscutella mollis*, *Allium anzalonei*, *Armeria denticulata*, *Alyssum bertolonii*, *Centaurea aplolepa* subsp. *subciliata* and *Festuca robustifolia*.

Species of conservation relevance

In the last decades, the traditional forms of use of natural resources have been increasingly replaced by modern methods of intensive agriculture and silviculture, especially in the plains and low-hill areas. Combined with other processes such as urbanization, ruderization, drainage and straightening of water courses and increasing drought, these dramatic changes are rapidly eroding the richness and complexity of the natural ecosystems, in particular the more vulnerable ones formerly covering large areas in the planitial and coastal areas such as wetlands and dune systems.

There is evidence that 15 species have gone extinct from Maremma during the last century, among which *Eriophorum latifolium*, *Isolepis pseudosetacea*, *Myosurus minimus*, *Ribes multiflorum*, *Schoenoplectus supinus*, *Eryngium barrelieri*, *Butomus umbellatus* and others. Most are hygrophilous species formerly present with isolated populations that have disappeared after the destruction of their local habitat. Based on Scoppola and Spampinato (2005) and Marconi (2007) the Grosseto province harbours 12 species of the National Red List, while 103 are those included in the Regional Red Lists, protected by the Regional Law no. 56/2000 or in the “Repertorio Naturalistico Toscano” (Sforzi & Selvi 2005; Tab. 4).

Table 3. Endemic species.

| | n° | % |
|---|----|------|
| Apenninic area s.l. | 20 | 1.04 |
| Tuscan, Tusco-Emilian and Tusco-Latial area | 10 | 0.52 |
| Ligurian-Tyrrhenian area | 9 | 0.47 |
| Tuscan Maremma | 6 | 0.31 |
| Corso-Sardinian and Apenninic area | 5 | 0.26 |
| Total | 50 | 2.60 |

Most of the red-list taxa are hygrophilous plants and this highlights the precarious conservation status and the need for a strict protection of the surviving wetlands of Maremma.

The grass *Deschampsia media* has a special importance due to the absolute rarity of the species at the national level and the demographic exiguity of the single population recently confirmed from the western slopes of Mt. Amiata.

Based on our data, about 3.8% of the flora consists of exotic, more or less naturalized species (73) that are able to persist in the wild without any form of human assistance. Highly invasive plants are not numerous, but some are rapidly expanding and may represent an ecological threat for the conservation of natural ecosystems. Examples are *Ailanthus altissima*, *Salpichroa oranifolia*, *Paspalum dilatatum*, *Carpobrotus acinaciformis*, *Eragrostis curvula*, *Senecio inaequidens* and *Oenothera chicaginensis*.

Table 4. Species of conservation interest at the national level

| IUCN category | taxa |
|-------------------------|--|
| Critically Endangered | 1: <i>Plantago cornuti</i> |
| Endangered | 3: <i>Orchis palustris</i> , <i>Utricularia australis</i> , <i>Ludwigia palustris</i> |
| Vulnerable | 7: <i>Eleocharis multicaulis</i> , <i>Isoetes velata</i> , <i>Halocnemum strobilaceum</i> , <i>Limonium etruscum</i> , <i>Myriophyllum alterniflorum</i> , <i>Altenia filiformis</i> , <i>Hottonia palustris</i> |
| Lower Risk | 1: <i>Crocus etruscus</i> |
| Others (regional level) | 105 |

Methods

Content of the checklist. The present inventory includes all the wild-growing taxa of vascular plants recorded from the Tuscan Maremma, based on herbarium material or literature reports. Either native or exotic naturalized taxa are included, while commonly planted and cultivated species, crop plants and ornamentals which are never or very occasionally found outside fields and gardens are omitted. A broader, fully consistent treatment of non-native plants in this area is scarcely possible to date.

The checklist is mainly based on personal collections started in 1989 and still continuing. These are conserved in a personal herbarium today including ca. 3.500 numbered records (*Herb. Selvi*, indicated in the floristic list as HS), and partly in the *Herbarium Centrale Italicum* (FI-H.C.I.) and, to a lesser extent, in the *Herbarium Mediterraneum* (PAL). The list was integrated with the data obtained from the study of available collections examined in the main Tuscan herbaria, especially FI, FIAF, PI and SI. Records in local floristic works and notes published since *Prodromo della Flora Toscana* (Caruel 1860-64) have been included as far as possible, together with significant data in published phytosociological tables concerning the vegetation of the study area. An effort was made to trace and examine the herbarium materials linked to both old and recent literature reports, but this resulted difficult due to the relatively high number of taxa indicated without the support of accessible herbarium vouchers.

Organization of the checklist. The order and delimitation of the families follow the most recent phylogenetic evidence, with only a few exceptions. Families are ordered according to Smith & al. (2006) for cryptogams with megaphylls, and the recent linear sequence of families by Haston & al. (APG III, October 2009) for angiosperms. The treatment of gymnosperms follows Chaw & al. (2000). In all groups, genera within families and species within genera are in alphabetical order.

In the list, the following data are reported (in the order):

- Species name. Subspecies are indicated only when different from the typical (nominal) one, or when two or more are present. Nomenclature of species and subspecies is mainly in line with Conti & al. (2005, 2007), but different treatments in recent standard Floras, such as *Flora Hellenica* (Strid & Tan 1997-2002), *Flora Alpina* (Aeschimann & al. 2004), *Flora Corsica* (Jeanmonod & Gamisans 2007), *Flora Europaea* (Tutin & al. 1964-1993), *Flora Iberica* (Castroviejo & al. 1986-2009) and *Med-Checklist* (Greuter & al. 1984-1989; 2008) have been adopted in some cases. Nomenclature of Asteraceae follows *Med-Checklist* vol. 2 (Greuter 2008). In the genus *Taraxacum* Weber identification of collections were provisionally limited to the “main species” or section. Hybridogenous taxa of orchids are omitted. For a list of the Orchidaceae hybrids known from the Grosseto province, about 30 interspecific and six intergeneric entities, we refer to Del Prete & al. (1993). Abbreviations of the authors follow Brummitt & Powell (2004).

The taxa reported in bold and followed by an exclamation mark (!) are present in *Herb. Selvi* with numbered collection(s), but these are indicated for the most relevant records only. Taxa not present in *Herb. Selvi* but confirmed by other collections or reliable indications are reported in bold without the exclamation mark. For the taxa that cannot be actually confirmed, three cases have been distinguished:

1) *Excludenda*, not in bold and preceded by the symbol *. These taxa have been indicated, most probably by error, usually before 1940 (mostly in the century 1800-1900), from areas that have been well investigated in recent times. These taxa have never been confirmed by later reports and/or collections, and are phytogeographically highly improbable in Maremma (es. *Cryptogramma crispa*, *Murbeckiella zanonii*, *Circaea alpina*, etc.); 2) *Inquirenda*: indicated in bold and preceded by the question mark ?. These taxa have been reported in either old or recent times from still poorly known parts of Maremma, where their presence is phytogeographically plausible although herbarium collections could not be found (es.: *Medicago intertexta*, *Arnoseris minima*, *Utricularia minor*). Records based on collections of doubtful identification because scarce, sterile or anyway incomplete are also included in this category; 3) *Extincta*: indicated in bold and preceded by the symbol †. These are locally rare taxa that were formerly (before 1940) present in the Grosseto province, as confirmed by reliable literature quotations and, above all, herbarium collections. However, they have never been recorded or observed ever since, and have most probably disappeared following the destruction of their habitat. Most of them are hygrophilous plants that have been personally but unsuccessfully searched for in their former localities, (es. *Myosurus minimus*, *Eriophorum latifolium*, *Eryngium barrelieri*, *Ribes multiflorum*, see above the conservation part).

- Synonyms; heterotypic synonyms are reported only in a few cases;
- Raunkiaer's life-form (Raunkiaer 1934), with the exception of the *excludenda*;
- Phytogeographical element (abbreviated) according to the syntheses by Takhtajan (1986) and Arrigoni (1973, 1983) for the subregional units, with the exception of the “*excludenda*“. Exotic taxa able to grow in more or less natural habitats are indicated as “Naturalized”, regardless of their geographic origin;
- Degree of frequency, according to the following categories: CC = very common over the whole province, in various habitats ; C = common and occurring in at least 4 sectors; L = well distributed in only three sectors at most, R = known from only a few localities of at most two sectors; RR = very rare and known only from two or three localities of a single sector;
- Sector(s) of presence, indicated by the numbers as in Fig. 1 and in the description given above; this information is omitted for the *excludenda* while it is given in parentheses for the extinct taxa;
- Main vegetation habitat (formation) where the taxon occurs, indicated by the capital letters as in the EUNIS classification system (Table 1); this information is omitted for the *inquirenda* and the *excludenda*;
- Notes on relevant aspects concerning the taxon, either taxonomical or phytogeographical, often with indications of literature data and herbarium collections. To distinguish between literature references and herbarium collections, names of collectors are indicated in *italics*, following by the herbarium acronym in which the collection is conserved.

Floristic Checklist**LYCOPODIOPSIDA**

LYCOPODIACEAE

Huperzia selago (L.) Bernh. ! - Ch rept - Subcosmop. - RR: 6 - M; extremely rare on the top of Mt. Amiata (HS 1233; Selvi 2002)

SELAGINELLACEAE

Selaginella denticulata (L.) Spring ! - Ch rept - Medit.Macar. - C: 2,4,5,9 - C,K

ISOËTACEAE

Isoëtes duriei Bory ! - G bulb - Medit. - L: 2,3,9 - E; frequent in the cork oak woodlands in the area of Roccastrada, Grosseto and Civitella M.ma; also on the coastal hills of Scarlino and area of Capalbio (Selvi in Marchetti 2005, Lastrucci & al. 2007)

Isoëtes gymnocarpa (Gennari) Braun - G bulb - Medit. - RR: 9 - E; according to Carta & al. (2009) this species was collected in the area of Capalbio (coll. Sommier 1892 sub *I. histrix* f. *subinermis* Durieu, FI) together with *I. histrix*

Isoëtes histrix Bory ! - G bulb - Medit.Atl. - RR: 9 - E; surroundings of Capalbio (coll. Sommier 1892; FI!); recently confirmed for the small lake of Marruchetone (Selvi in Marchetti 2005, Lastrucci & al. 2007)

Isoëtes velata A. Braun ! - I rad - Medit.Atl. - RR: 9 - E; extremely rare in the small lake of Marruchetone near Capalbio (coll. Sommier 1892, FI!, HS 2655; Sommier 1892b, Selvi in Marchetti 2005, Lastrucci & al. 2007)

PSILOTOPSIDA

OPHIOGLOSSACEAE

Ophioglossum lusitanicum L. ! - G rhiz - Medit.Atl. - RR: 2 - E; very rare in the pozzines with acid soil on the low hills near Sticciano (HS 2618; Selvi in Marchetti 2005)

EQUISETOPSIDA

EQUISETACEAE

Equisetum arvense L. - G rhiz - Holart.Paleotrop. - C: 1,2,5,6,7 - B,G,N

?***Equisetum hyemale*** L. - G rhiz - Bor. - 1?; indicated from the Farma valley (Bergman in Chiarucci & al. 1993) but not confirmed

Equisetum palustre L. ! - G rhiz - Bor. - RR: 2 - E; humid woods along Fosso Righiere near the railway station of Roccastrada (HS 1864)

Equisetum ramosissimum Desf. ! - G rhiz - Holart.Paleotrop. - C: 1,2,3,4,5,6 - E,L,N

Equisetum telmateja Ehrh. ! - G rhiz - Holarct. - C: 1,2,4,5,6,7,8 - E,L

POLYPODIOPSIDA

OSMUNDACEAE

Osmunda regalis L. ! - G rhiz - Subcosmop. - R: 1,2 - L; in several places in the Farma and Merse valleys and in the area of Mt. Leoni

DENNSTAEDTIACEAE

Pteridium aquilinum (L.) Kuhn ! - G rhiz - Cosmop. - CC: 1,2,4,5,6,7,8,9 - L

PTERIDACEAE

Adiantum capillus-veneris L. ! - G rhiz - Subcosmop. - C: 1,2,5,8 - C

Anogramma leptophylla (L.) Link ! - T caesp - Cosmop. - R: 2,8 - C; Mt. Leoni near Sticciano and Sorano near San Quirico (Viciani & al. 2004), on non-calcareous rocks

**Cryptogramma crispa* (L.) R.Br. - an old, unreliable indication from Mt. Amiata (Savi in Caruel 1870 sub *Allosurus crispus* (L.) Röhling)

**Notholaena marantae* (L.) Desv. - an old, unreliable indication from Mt. Amiata (Savi in Caruel 1870)

ASPLENIACEAE

Asplenium fontanum (L.) Bernh. - H ros - W Medit.Eur. - 6: RR - C; collected by Savi on Mt. Amiata “sulle rupi umide” (PI sub *A. halleri* !; Savi in Caruel 1870 sub *A. halleri* Cand.) and indicated from Arcidosso “alla Fonte della Vena” (Santi in Caruel 1870 sub *A. halleri* Cand.)

?***Asplenium obovatum*** subsp. ***lanceolatum*** (Fiori) P. Silva - H ros - Teth.Eur. - 2?; indicated from the coast of Scarlino at Cala Martina (P. Savi in Caruel 1870 sub *A. lanceolatum* Huds.), but there are no later records or observations; to be confirmed

Asplenium onopteris L. ! - H ros - Paleotrop.Medit. - C: 1,2,3,4,5,6,7 - K; the old indications of *A. adiantum-nigrum* L. from Mt. Amiata, Sovana and Pitigliano (Santi in Caruel, 1870) are referred here

Asplenium ruta-muraria L. ! - H ros - Bor.Medit. - R: 1,2,7 - C

Asplenium septentrionale (L.) Hoffm. ! - H ros - Bor. OroTeth. - RR: 1,6,7 - C; Farma valley at “La Pietra”, Mt. Amiata and Pietra Sorbella near Arcidosso

Asplenium trichomanes subsp. ***quadrivalens*** D.E.Mey. ! - H ros - Subcosmop. - R: 1,2 - K

Asplenium trichomanes L. subsp. ***trichomanes*** ! - H ros - Subcosmop. - C: 1,2,4,5,6,7,8 - K

Ceterach officinarum DC. ! - H ros - Teth.Eur. - C: 1,2,4,7 - K

Phyllitis scolopendrium (L.) Newman ! - H ros - Teth.Eur. - L: 1,2,8 - C

THELYPTERIDACEAE

Thelypteris palustris Schott - G rhiz - Holarct. - RR: 1- L; Farma valley and perhaps woods near Montieri and Massa M.ma (Angiolini & Landi in Marchetti 2005, Landi & Angiolini 2006); the indication of *Phegopteris connectilis* (Michx.) Watt from the Farma valley (Bergman in Chiarucci & al. 1993 sub *P. polypodioides* Fée) is probably to be referred here

WOODSIACEAE

Athyrium filix-femina (L.) Roth ! - H ros - Holarct. - L: 1,2,6,8 - L

Cystopteris fragilis (L.) Bernh. ! - H caesp - Cosmop. - R: 6,7 - C

†***Cystopteris montana*** (Lam.) Desv. - H ros - Bor. - (1); collected by Savi on Poggio di Montieri (“in summitate altissimi montis inter fagos”; Savi in Caruel 1870); the record was confirmed by Caruel (1870) and, as reported by Pichi Sermolli (in Ferrarini & al. 1986), is still conserved in PI (!); the species, however, has never been collected later and may be locally extinct

Gymnocarpium dryopteris (L.) Newman ! - G rhiz - Holarct. - RR: 6 - L; beech woods of the upper slopes of Mt. Amiata (Selvi 1996)

BLECHNACEAE

Blechnum spicant (L.) Roth ! - H ros - Bor.Teth. - RR: 1,6 - L; Farma valley (Chiarucci & al. 1993; Morrocchi & al. 1997) and Mt. Amiata (Selvi 1996)

DRYOPTERIDACEAE

Dryopteris affinis (Lowe) Fraser - Jenk. subsp. ***affinis*** ! - G rhiz - Teth.Eur. - R: 1,6 - L; Mt. Amiata and Farma valley in the Belagaio wood (Selvi in Marchetti 2005)

Dryopteris affinis subsp. ***borreri*** (Newman) Fraser - Jenk. ! - G rhiz - Teth.Eur. - RR: 1 - L; Farma valley and Mt. Sassoforte (Selvi in Marchetti 2005)

Dryopteris expansa (C.Presl) Fraser - Jenk. et Jermy ! - G rhiz - Eurosib. - R: 6 - L; only known from Mt. Amiata; the indication of *Aspidium spinulosum* Döll for this area near Vivo (Caruel 1870) is probably to be referred here; *D. carthusiana* (Vill.) H.P. Fuchs, has never been recorded from Mt. Amiata

Dryopteris filix-mas (L.) Schott ! - G rhiz - Subcosmop. - L: 1,6,7 - L

Polystichum setiferum (Forssk.) Woyn. ! - G rhiz - Teth.Eur. - C: 1,2,6,7,8 - L; the indications of *P. aculeatum* (L.) Roth for Mt. Amiata and Pitigliano (Savi & Santi in Caruel 1870 sub *Aspidium aculeatum* Döll) are to be referred here

POLYPODIACEAE

Polypodium cambricum L. ! - H ros - Medit.Atl. - C: 1,2,4,8 - C

Polypodium interjectum Shivas ! - H ros - Teth.Eur. - C: 1,2,6,7,8 - C,K

Polypodium vulgare L. ! - H ros - Holarct.Cap. - L: 1,6,7,8 - L

PINOPSIDA (GYMNOSPERMAE)

CUPRESSACEAE

Cupressus sempervirens L. - P caesp - widely cultivated and locally naturalized - C: 1,2,3,4,5,6,7,8,9

Juniperus communis L. ! - P caesp - Holarct. - C: 1,2,5,6,7,8 - K,L

Juniperus oxycedrus L. subsp. ***oxycedrus*** ! - P caesp - Medit. - L: 1,2,4,5,9 - K,L; wide-spread on the serpentine outcrops near Roccatederighi and Casenovole in the Merse valley; rare on the calcareous outcrops near Capalbì and other places

Juniperus oxycedrus subsp. ***macrocarpa*** (Sm.) Ball ! - P caesp - Medit. - L: 3,4 - K

Juniperus phoenicea subsp. ***turbinata*** (Guss.) Nyman ! - P caesp - Medit. - L: 2,3,4 - K

TAXACEAE

Taxus baccata L. ! - P scap - Teth.Eur. - R: 1,7 - L; montane sectors; Farma valley, Mt. Alto near Roccastrada (sect. no. 1) and near Selvena in the area of Poggio Mastro di Casa (sect. no. 7)

PINACEAE

Abies alba Mill. - P scap - Eur.OroMedit. - RR: 7 - L; probably native only on the northern slopes of Mt. Penna in the upper Siele valley, near the "Pigelleto" of Piancastagnaio

- Pinus halepensis* Mill. - P scap - Naturalized - C: 2,3,4,5 - K; coastal areas
Pinus nigra subsp. *laricio* Maire - P scap - locally Naturalized - C: 1,2,6,7 - L; possibly naturalized in the sectors I and VII
Pinus nigra J.F. Arnold subsp. *nigra* - P scap - locally Naturalized - L: 1,7 - L;
Pinus pinaster Aiton - P scap - Medit.Atl. - C: 1,2,3,4 - K,L; doubtfully native but widespread and abundant in especially in the northern sectors (I and II) on siliceous soils of the “Verrucano” formation
Pinus pinea L. - P scap - Naturalized - L: 2,3,4 - K; widely cultivated and naturalized along the coast
Pseudotsuga menziesii (Mirb.) Franco - P scap - sporadically Naturalized - L: 1, 6,7 - L; Mt. Amiata area

MAGNOLIOPSIDA (ANGIOSPERMAE)

NYMPHAEACEAE

- Nymphaea alba* L. ! - I rad - Eur.Medit. - RR: 9 - D; lakes of Uccellina and San Floriano near Capalbio (Lastrucci & al. 2007)
 **Nuphar lutea* (L.) Sm. - an old record for the ancient lake of Castiglione (Santi in Caruel 1865, Baroni 1899), not supported by herbarium material or later observations

ARISTOLOCHIACEAE

- Aristolochia lutea* Desf. ! - G bulb - Medit.Pont. - C: 1,6,7,8,9 - L
Aristolochia rotunda L. ! - G bulb - Eur.Medit. - C: 1,2,3,5,7,9 - L
Asarum europaeum L. ! - G rhiz - Eurosib. - R: 1,6,7 - L

LAURACEAE

- Laurus nobilis* L. ! - P caesp - Eur.Medit. - L: 1,2,3,4 - K; native in the shady valley forests in the area of Mt. Leoni, Farma valley, Poggio Ballone, Uccellina hills, and Albegna valley in the Rocconi reserve

ARACEAE

- Arisarum vulgare* Targ.Tozz. ! - G rhiz - Medit. - L: 3,4 - K
Arum italicum Mill. - G rhiz - Medit.Atl. - CC: 1,2,3,4,5,7,8,9 - L,N
Arum maculatum L. ! - G rhiz - Eur.Medit. - R: 1,6,7,8 - L
 **Dracunculus vulgaris* Schott - an old quotation from the former Lake of Castiglione d. Pescaia at La Badiola (Santi in Caruel 1860-64); never confirmed
Lemna minor L. ! - I nat - Cosmop. - R: 3,4,6,8,9 - D
Spirodela polyrhiza (L.) Schleid. - I nat - Cosmop. - RR: 4 - D; freshwaters of Burano lake (Angiolini & al. 2002)

ALISMATACEAE

- Alisma lanceolatum* With. ! - I rad -Teth.Eur. - R: 2,3,4,9 - E,D; marsh of Scarlino (coll. Martelli 1892, FI!), Maremma park (Arrigoni 2003), Capalbiaccio and Lagaccioli near Capalbio (coll. Sommier 1892 and Sforzi & Senesi 2004, FI!), lower Merse river (Landi & al. 2002); intermediate forms between *A. plantago-aquatica* and *A. lanceolatum* are relatively frequent

Alisma plantago-aquatica L. ! - I rad - Holarct. - C: 1,2,3,4,5,9 - E,D

Baldellia ranunculoides (L.) Parl. ! - I rad - Medit.Atl. - RR: 9 - E; small lake of La Sdriscia near Capalbio (HS 0007; Selvi & Stefanini 2005, Lastrucci & al. 2007)

Damasonium alisma Mill. ! - I rad - Medit. - RR: 2,9 - E; Lagaccioli near Capalbio (Sommier 1892b, Selvi & Stefanini 2005, Lastrucci & al. 2007)

Sagittaria sagittifolia L. - an old quotation from the former Lake of Castiglione d. Pescaia (Santi in Caruel 1860-64), also mentioned by Tomei & Guazzi (1993), not supported by herbarium records or later observations

BUTOMACEAE

†*Butomus umbellatus* L. - I rad - Eurosib.Teth. - (2) - E; collected in the coastal lagoon of Castiglione d. Pescaia and along Fossa Pisana near the Bruna river (coll. *Sommier* 1894 and *Corradi* 1946, FI!); not observed later and probably locally extinct

JUNCAGINACEAE

Triglochin bulbosum subsp. *barrelieri* (Loisel.) Rouy ! - G bulb - Medit. - L: 3,4 - B

Triglochin laxiflorum Guss. - G bulb - Medit. - RR: 9 - E; collected only once near Capalbiaccio (coll. *Sommier* 1894, flowering specimens collected in the Botanical Garden of Firenze in October, FI!)

ZOSTERACEAE

Zostera noltii Hornem. ! - I rad - Medit.Atl. - R: 3,4 - A

POTAMOGETONACEAE

Groenlandia densa (L.) Fourr. ! - I rad - Eurosib. - RR: 2 - D; plain around Braccagni in a ditch near the junction between the canal Fossa and the river Bruna (HS 2078)

Potamogeton coloratus Hornem. - I rad - Holart.Paleotrop. - RR: 2 - D; Accesa lake (FI!; Rizzotto 1982)

Potamogeton crispus L. ! - I rad - Subcosmop. - R: 2,5,9 - D; small lakes near Capalbio (Lastrucci & al. 2007) and river Ombrone (HS 3028)

?*Potamogeton filiformis* Pers. - I rad - Subcosmop. - 3?; doubtful indication from the Maremma park in the salt marsh of La Trappola (Tomei & al. 2001)

Potamogeton lucens L. ! - I rad - Eurosib.Teth. - R: 2,9 - D

Potamogeton natans L. ! - I rad - Subcosmop. - L: 1,2 - D

Potamogeton nodosus Poir. ! - I rad - Subcosmop. - R: 2,9 - D; river Merse and small lakes near Capalbio (Lastrucci & al. 2007)

Potamogeton pectinatus L. ! - I rad - Cosmop. - C: 2,3,4,9 - D

Potamogeton perfoliatus L. ! - I rad - Bor.Medit. - RR: 9 - D; rare near Capalbio in the small lake of La Sdriscia (Lastrucci & al. 2007)

Potamogeton polygonifolius Pourr. ! - I rad - Eur.Medit. - RR: 2 - D; river Merse (Angiolini & al. 2003) and area of Mt. Leoni in the locality Pian di Muro (Selvi 2005)

Potamogeton pusillus L. ! - I rad - Holarct. - RR: 2 - D; river Merse and corkoak woodlands of Lattaia in a pond with oligotrophic waters (HS 2636, 2725)

Potamogeton trichoides Cham. et Schltldl. ! - I rad - Holart.Paleotrop. - RR: 9 - D; near Capalbio in the small lakes of Marruchetone and Piscina degli Olmi (Lastrucci & al. 2007)

ZANNICHELLIACEAE

Althenia filiformis Petit - I rad - W Medit. - RR: 4 - A; very rare near Orbetello, along the eastern margin of the Ponente lagoon (Onnis 1967)

Zannichellia palustris L. subsp. *palustris* ! - I rad - Holarct. - R: 1,7 - D; mainly in clear, fresh waters of the internal sectors

Zannichellia palustris subsp. *polycarpa* (Nolte) K. Richt. ! - I rad - Holarct. - R: 2,9 - D; mainly in coastal or lowland, sometimes brackish, waters

POSIDONIACEAE

Posidonia oceanica (L.) Delile ! - I rad - Medit.Atl. - L: 3,4 - A

RUPPIACEAE

Ruppia cirrhosa (Petagna) Grande - I rad - Holart.Paleotrop. - L: 4 - A; indicated from the lake of Burano (Angiolini & al. 2002) and the Orbetello lagoon (Naviglio & al. 1988)

Ruppia maritima L. ! - I rad - Holart.Paleotrop. - L: 3,4 - A

CYMODOCEACEAE

Cymodocea nodosa (Ucria) Asch. ! - I rad - Eur.Medit. - R: 3,4 - A

DIOSCOREACEAE

Tamus communis L. ! - G rad - Eur.Medit. - CC: 1,2,3,4,5,7,8,9 - K

MELANTHIACEAE

Paris quadrifolia L. ! - G rhiz - Bor. - R: 6 - L; beech woodlands of Mt. Amiata (Selvi 1996)

**Veratrum nigrum* L. - an old and unreliable indication from Prata (Santi in Caruel 1860-64)

COLCHICACEAE

Colchicum longifolium Cast. ! - G bulb - CW Medit. - C: 1,2,9 - G,L; records (HS 0678,0679, 3067, 3066) determined by K. Persson (Selvi 2009a)

Colchicum lusitanum Brot. ! - G bulb - W Medit. - RR: 9 - K; Marsiliana near Capalbio (coll. *Sommier* 1905, FI!; HS 3069)

Colchicum neapolitanum (Ten.) Ten. ! - G bulb - C Medit. - C: 1,2,6,7 -G,L

SMILACACEAE

Smilax aspera L. ! - NP - Paleotrop.Medit. - CC: 1,2,3,4,5,7,8,9 - K

LILIACEAE

Erythronium dens-canis L. ! - G bulb - Bor. - R: 1,6 - L; Farma valley near Torriella and Roccatederighi (HS 0812, 2511), Mt. Alto, Massa M.ma and Mt. Amiata near Rigale (Selvi 1996)

Fritillaria montana Hoppe ! - G bulb - CE OroMedit.Pont - RR: 1 - L; Poggio Croce di Prata (HS 2060) and Cornate di Gerfalco (Frignani & al. 2004)

Gagea lutea (L.) Ker Gawl. ! - G bulb - Eur.Medit. - R: 1,6,7 - L

Gagea tisoniana Peruzzi, Bartolucci, Frignani et Minut. ! - G bulb - Endem. (Tuscany and Latium) - RR: 1 - G; Cornate di Gerfalco (Selvi 2001, Frignani & al. 2004 sub *G. pusilla* (F.W.Schmidt) Schult. et Schult.f.)

- Gagea villosa* (M. Bieb.) Sweet ! - G bulb - Mid Europ. - RR: 7 - G; Monticello Amiata at Poggio all'Olmo near Alteta (in obs.!)
Lilium bulbiferum subsp. *croceum* (Chaix) Baker ! - G bulb - Eur.Medit. - C: 1,2,5,6,7,8 - L
Lilium martagon L. ! - G bulb - Eurosib. - R: 5,6,7,8 - L

ORCHIDACEAE (hybridogenous entities are omitted)

- Anacamptis pyramidalis* (L.) Rich. ! - G bulb - Eur.Medit. - C: 1,2,4,5,7,9 - G
Barlia robertiana (Loisel.) W. Greuter - G bulb - Medit. - RR: 1,3 - G; area of Cornate di Gerfalco (Tichy & al. 1979, Del Prete & al. 1993), and Maremma Park near Alberese (Gulli & al. 2002)
Cephalanthera damasonium (Mill.) Druce ! - G rhiz - Teth.Eur. - R: 1,5,7 - L
Cephalanthera longifolia (L.) Fritsch ! - G rhiz - Eurasiatico Medit. - C: 1,2,3,7,8 - L,K
Cephalanthera rubra (L.) Rich. ! - G rhiz - Eur.OroMedit. - R: 1,6 - L
Coeloglossum viride (L.) Hartm. ! - G bulb - Holarct. - RR: 7 - G; collected only once on Mt. Labbro, meadows on Poggio Banditella (HS 1797)
Corallorhiza trifida Châtel. ! - G rhiz - Holarct. - RR: 6 - L; beech forests on the upper parts of Mt. Amiata (Selvi 1996)
Dactylorhiza insularis (Sommier) Landwehr ! - G bulb - W Medit. - RR: 1,6 - L; western slopes of Mt. Amiata near Arcidosso (HS 1098; Selvi 1996, 1997), and area of Cornate di Gerfalco (Del Prete & al. 1993)
Dactylorhiza maculata subsp. *fuchsii* (Druce) Hyl. ! - G rhiz (tub) - Eurosib. - C: 1,2,5,6,7,8 - L
Dactylorhiza romana (Sebast.) Soó ! - G rhiz (tub) - Medit.Pont. - C: 1,2,5,6,7 - K
Dactylorhiza sambucina (L.) Soó ! [= *D. latifolia* (L.) Soó, nom. rejic.] - G bulb - Teth.Eur. - L: 1,6,7 - G,L
Epipactis helleborine (L.) Crantz ! - G rhiz - Eurosib.Teth. - L: 1,2,6,7 - L
Epipactis latina (W. Rossi et E. Klein) B. Baumann & H. Baumann ! - G rhiz - Endem. (N and C Apennines) - L: 6,7 - L
Epipactis microphylla (Ehrh.) Sw. ! - G rhiz - Mid Europ. - R: 2,6,7 - L
Epipactis muelleri Godfery ! - G rhiz - Europ. - RR: 2,6 - L; chestnut woods on Mt. Amiata (HS 1108; Selvi 1996) and Tirli near Eremo of S. Anna (HS 1109)
Epipactis palustris (L.) Crantz - G rhiz - Eurosib. - RR: 2,7 - E; collected at Lago dell'Accesa (Rizzotto 1982), but not confirmed recently in this site (Selvi & Stefanini 2005); also in a pond on Poggio all'Olmo (Maccherini & al. 2001)
Epipactis persica subsp. *gracilis* W. Rossi ! - G rhiz - Ir.Tur. Europ. - RR: 6 - E; Mt. Amiata near Abbadia S. Salvatore (HS 1110; Selvi 1996, 1997)
Epipogium aphyllum Sw. ! - G rhiz - Bor. - RR: 6 - L; extremely rare on Mt. Amiata in the beech forests above Rifugio Cantore (HS 1111; Selvi 1996, 1997b)
Gymnadenia conopsea (L.) R.Br. ! - G bulb - Eurosib.Teth. - R: 1,2,5,7 - G
Himantoglossum hircinum subsp. *adriaticum* (H. Baumann) H. Sund. ! - G bulb - CE Medit. - R: 1,2,7 - G
Limodorum abortivum (L.) Sw. ! - G rhiz - Eur.Medit. - C: 2,3,6 - K
Listera ovata (L.) R.Br. ! - G rhiz - Eur.OroMedit. - R: 1,2,6,7 - L
Neotinea maculata (Desf.) Stearn ! - G rhiz (tub) - Medit.Atl. - R: 2,3,4 - K

- Neottia nidus-avis* (L.) Rich. ! - G rhiz - Bor.Teth. - R: 1,2,6,7,8 - L
- Ophrys apifera* Huds. - G rhiz (tub) - Eur.Medit. - C: 1,2,3,4,5,6,7,9 - G,K
- Ophrys bertolonii* Moretti - G bulb - CW Medit. - C: 1,2,4,5,7,9 - G,K
- Ophrys bombyliflora* Link - G bulb - Medit.Macar. - R: 2,3,4 - H,K
- Ophrys speculum* Link (= *O. ciliata* Biv.) - G bulb - Medit. - RR: 2,3,4 - K; very rare along the coastal sectors (e.g. Uccellina hills, Arrigoni 2003) and in a few sites in sector 2 (Del Prete & al. 1993)
- Ophrys crabronifera* Mauri - G bulb - Endem. (Ligurian-Tyrrhenian area) - R: 2,4 - K; Uccellina hills (Arrigoni 2003), Poggio di Moscona and Mt. Calvo near Ravi (in obs.!)
- Ophrys fuciflora* (F.W. Schmidt) Moench [= *O. holoserica* (Burm fil.) W. Greuter] ! - G rhiz (tub) - Eur.Medit. - R: 2,3,4,5,7,9 - G,L
- Ophrys fusca* Link ! - G bulb - Medit.Atl. - R: 3,4,7 - K
- Ophrys incubacea* Bianca - G bulb - CW Medit. - 3,4,5,9 - K
- Ophrys insectifera* L. ! - G bulb - Europ. - RR: 1,7 - L; scrub on Cornate di Gerfalco (Frignani & al. 2004) and near Seggiano (HS 2814); see also Del Prete & al. (1993)
- Ophrys lutea* Cav. - G bulb - Medit. - RR: 2,3,4,9 - K; mainly coastal sectors (e.g. Uccellina hills, Arrigoni 2003, Del Prete & al. 1993); incl. ssp. *minor* (Tod.) O. et E. Danesch
- Ophrys sphegodes* Mill. ! - G rhiz (tub) - Eur.Medit. - CC: 1,2,3,4,5,6,7,8,9 - G,K,L,N; incl. *O. garganica* E. Nelson ex O. et E. Danesch, considered a distinct species in Del Prete & al. (1993)
- Ophrys tenthredinifera* Willd. ! - G bulb - Medit. - R: 2,3,4,5,9 - K
- Ophrys exaltata* subsp. *tyrrhena* (Gözl et H.R. Reinhard) Del Prete (≡ *O. tyrrhena* Gözl et H.R. Reinhard) ! - G rhiz (tub) - Endem. (Ligurian-Tyrrhenian area) - R: 2,3,4 - H,K; including *O. exaltata* Ten. ssp. *montis-leonis* (O. Danesch & E. Danesch) Soca (≡ *O. ' montis-leonis* O. Danesch & E. Danesch), a taxon of hybrid origin (*O. fuciflora* ' *O. exaltata* group)
- Orchis anthropophora* (L.) All. ! - G bulb - Eur.Medit. - L: 2,4,7 - K,N
- Orchis colemanii* Cortesi - G bulb - Endem. (Apennines) - RR:1, 7 - G; area of Gerfalco (Del Prete & al. 1993) and Mt. Civitella near Castellazzara (Frignani & al. 2008)
- Orchis coriophora* L. ! - G bulb - Eur.Medit. - L: 3,4,5 - G,K,L; plants from Maremma belong to subsp. *fragrans* (Pollini) K. Richt., a taxon of doubtful taxonomic value
- Orchis italica* Poir. ! - G bulb - Medit. - C: 2,3,4,9 - K,N
- Orchis lactea* Poir. - G bulb - Medit. Balk. - R: 4,5,9 - K; area of Orbetello and Capalbio (Baroni 1902), Uccellina hills (Arrigoni 2003) and open woods in the lower Albegna valley (coll. *Sforzi & Selvi* 2004, FI!)
- Orchis laxiflora* Lam. ! - G bulb - Eur.Medit. - R: 2,4,5,7 - E
- Orchis mascula* (L.) L. ! - G bulb - Eur.OroMedit. - R: 6,7 - G,L; Mt. Labbro (Maccherini & al. 1994) and area of Mt. Civitella (HS 1118)
- Orchis morio* L. ! - G bulb (tub) - Eur.Medit. - CC: 1,2,3,4,5,7,8,9 - G,K,N
- Orchis palustris* Jacq. ! - G bulb - Teth.Eur. - R: 2,3,4 - E; coastal plain of the Maremma park (Arrigoni 2003), and lakes of Burano (Angiolini & al. 2002) and Accessa (HS 2411)
- Orchis papilionacea* L. ! - G rhiz (tub) - Eur.Medit. - CC: 1,2,3,4,5,9 - K,N
- Orchis pauciflora* Ten. ! - G bulb - Medit. - L: 1,2,7 - G; Poggi di Prata, Cornate di Gerfalco, Mt. S. Croce, Mt. Calvo, Mt. Labbro and Mt. Civitella

- Orchis provincialis* Balb. ex Lam. et DC. ! - G rhiz (tub) - Eur.Medit. - C: 1,2,5,7,8,9 - G,L
Orchis purpurea Huds. - G rhiz (tub) - Eur.Medit. - C: 1,2,5,7,8 - L
Orchis simia Lam. ! - G bulb - Eur.Medit. - R: 1,2,9 G,K; Cornate di Gerfalco (HS 1126; Frignani & al. 2004), Mt. Calvo near Ravi (HS 1127) and hills of Capalbino (Sommier 1892b)
Orchis tridentata Scop. ! - G bulb - Teth.Eur. - R: 1,2,4,7 - G,K
Orchis ustulata L. ! - G bulb - Teth.Eur. - RR: 7 - L; Mt. Labbro near Podere del Nobili (HS 1120; Baldini 1996)
Platanthera bifolia (L.) Rich. ! - G rhiz - Teth.Eur. - C: 1,2,6,7 - L
Platanthera clorantha (Custer) Rchb. ! - G rhiz - Teth.Eur. - C: 1,2,6,7 - L
Serapias cordigera L. ! - G rhiz (tub) - Medit. - R: 2,3,4 - H,K
Serapias lingua L. ! - G rhiz (tub) - Medit. - R: 2,4,5 - H,K
Serapias neglecta De Not. - G bulb - W Medit. - RR: 4 - K; indicated from the Uccellina hills in the Maremma park (Arrigoni 2003)
Serapias parviflora Parl. ! - G bulb - W Medit. - L: 3,4 - H,K
Serapias vomeracea (Burm.f.) Briq. ! - G rhiz (tub) - Eur.Medit. - C: 1,2,3,4,5,6,7,8,9 - H,K,L; the presence of subsp. *laxiflora* (Soó) Gözl et H.R. Reinhard is doubtful
Spiranthes spiralis (L.) Chevall. ! - G rhiz (tub) - Teth.Eur. - R: 1,2,3 - K
 **Traunsteinera globosa* (L.) Rchb. - old and unreliable indication from Montepò near Scansano (Santi in Caruel 1860-64 sub *Orchis globosa* L.)

IRIDACEAE

- Crocus biflorus* Mill. ! - G bulb - Medit.Pont. - C: 1,2,4,9 - K,N
Crocus etruscus Parl. ! - G bulb - Endem. (Maremma) - L: 2,6,7 - K,L; locally very abundant in the thermophilous broadleaf woodlands in the area of Massa Marittima, Roccastrada and Civitella -Paganico, south to the area of Mt. Leoni; rarer in the more internal areas on the western slopes of Mt. Amiata (Selvi 1996, 1997b); the species has not been recorded from the southern sectors
Crocus vernus Hill ! - G bulb - Eur.Medit. - C: 1,5,6,7 - G,L
Gladiolus communis L. subsp. *communis* ! - G bulb - Medit. Ir.-Tur. - C: 1,2,4,5,7 - K,N
Gladiolus communis subsp. *byzantinus* (Mill.) A.P. Ham. ! - G bulb - Medit. - RR: 3,5(?),7 - N; indicated from Seggiano (Caruel 1865) it has been recently collected in the coastal plain of the Maremma park (Arrigoni 2003) and near Selvena around Rocca Silvana (HS 2902)
Gladiolus dubius Guss. ! - G bulb - C Medit. - R: 2,4 - K; garrigue and open macchia in the area of Mt. Leoni (HS 0695) and on the hills near Orbetello (HS 2684)
Gladiolus italicus Mill. ! - G bulb - Teth.Eur. - C: 1,2,3,4,5,8,9 - N
 **Gladiolus palustris* - indicated from the coastal lagoon of Diaccia Botrona (Tomei & Guazzi 1993) but never observed here and not supported by herbarium material
Hermodactylus tuberosus (L.) Mill. ! - G rhiz - Medit. - RR: 2 - N; Sticciano (HS 0697)
Iris foetidissima L. ! - G rhiz - CW Medit. Europ. - R: 2,3,5 - E
Iris graminea L. ! - G rhiz - MidEurop.Pont. - RR: 1 - L; rare in the broadleaf woodlands in the upper Pavone valley between Montieri and Monterotondo M.mo (HS 2570)
Iris lutescens Lam. ! - G rhiz - W Medit. - C: 1,2,3,4,5,9 - K
Iris pseudacorus L. ! - G rhiz - Eur.Medit. - C: 1,2,3,4,9 - E
Romulea bulbocodium (L.) Sebast. et Mauri ! - G bulb - Medit. - C: 1,2,3,4,7,8,9 - H,K
Romulea columnae Sebast. et Mauri ! - G bulb - Medit.Atl. - C: 2,3,4 - H,K

Romulea ramiflora Ten. ! - G bulb - Medit.Macar. - R: 2,3,4 - E,H

²***Romulea revelieri*** Jord. et Fourr. - G bulb - Endem. (Sardinia and Corsica) - RR: 3?; indicated from the Uccellina hills near Alberese (Arrigoni 2003); however, molecular data suggest conspecificity with *R. ramiflora* (Coppi, pers. comm.); additional collections are needed to confirm the presence of this endemic in Tuscany

Romulea rollii Parl. ! - G bulb - Medit. - L: 3,4 - B,C

XANTHORRHOACEAE

Asphodeline lutea (L.) Rchb. ! - G rhiz - Medit. - R: 4,5,7 - C

Asphodelus albus Mill. ! - G rhiz - Eur.OroMedit. - L: 1,6,7,9 - H,K

Asphodelus fistulosus L. - H scap - Medit. - RR: 4 - K; Uccellina hills in the Maremma park (FI!; Arrigoni 2003)

Asphodelus ramosus L. ! - G rhiz - Medit. - C: 2,3,4,9 - H,K

Simethis mattiazzi (Vandelli) G. López et C.E. Jarvis ! - G rhiz - W Medit.Atl. - R: 2,4,9 - K; especially frequent in the open cork oak woods in the area of Mt. Leoni (Selvi & Viciani 1999)

AMARYLLIDACEAE

Allium amethystinum Tausch ! - G bulb - CE Medit. - R: 4,5,9 - K,N; near Alberese (Garbari & Corsi 1972), and Capalbio in the woods around laghetto del Marruchetone (HS 2574; Lastrucci & al. 2007)

Allium ampeloprasum L. ! - G bulb - Teth. Pont. - CC: 1,2,3,4,5,9 - B,N; the indication of *A. rotundum* L. from Trasubbie (Frignani & al. 2007) is to be referred to this species

Allium anzalonei Brullo, Pavone et Salmeri ! - G bulb - Endem. (Tuscany and Latium) - R: 2,5 - G; clearings on wet, clayery soil in the oak forest near the railway station of Roccastra in the locality “Pian di Muro” (HS 0781, 0782); specimens determined by S. Brullo (Catania)

Allium carinatum subsp. ***pulchellum*** Bonnier et Layens ! - G bulb - Medit. - C: 1,2,3,5,7 - L

Allium chamaemoly L. ! - G bulb - Medit. - C: 2,3,4,5 - H,N

Allium moschatum L. ! - G bulb - CE Medit. - R: 1,2,5 - C,K; abundant on the rocky limestone outcrops on Poggio di Prata (HS 0787) and Poggio di Moscona (HS 0788, 0789; Selvi & Fiorini 1994); also near Saturnia at Pian di Palma, on travertine (HS 2959)

Allium neapolitanum Cirillo ! - G bulb - Medit. - R: 1,2,3,4,5 - N

Allium nigrum L. ! - G bulb - Medit.Macar. - R: 4,5,9 - N

Allium pallens L. subsp. ***pallens*** ! - G bulb - Medit. - R: 2 - N

Allium pallens subsp. ***tenuiflorum*** (Ten.) Stearn ! - G bulb - Medit. - C: 2,3,4,5,9 - C,K

Allium paniculatum L. ! - G bulb - Eur.Medit. - C: 1,2,3,4,5,7,9 - C,N

Allium pendulinum Ten. ! - G bulb - CW Medit. - C: 1,2,5,6,7,8,9 - L

Allium roseum L. ! - G bulb - Medit. - C: 1,2,3,4,5,7,8,9 - N

Allium sativum L. - G bulb - Cult. - 3 - N; indicated from the coastal plain of the Maremma park (Arrigoni 2003)

Allium savii Parl. ! - G bulb - Endem. (Tuscany) - R: 4,9 - E; wet places near Capalbio at the Marruchetone lake (HS 3074), Camporegio (HS 3073) and lagoon of Orbetello (coll. *Chioventa* 1894, FI!)

- Allium sphaerocephalon* L. ! - G bulb - Eur.Medit. - C: 1,2,3,4,5,7,8,9 - C,L,N
Allium subhirsutum L. ! - G bulb - Medit. - CC: 1,2,3,4,5,9 - C,K,N
Allium triquetrum L. ! - G bulb - CW Medit. - C: 2,3,4,9 - N
Allium ursinum L. ! - G bulb - Europ. - L: 1,7 - L; Farma valley and beech forests on Poggio Mastro di Casa between Mt. Civitella and Roccaccia di Montevitozzo (HS 0800)
Allium vineale L. ! - G bulb - Eur.Medit. - C: 1,3,5,7
Galanthus nivalis L. ! - G bulb - Mid Europ. Pont. - L: 1,2,6,7 - L
Leucojum vernum L. - G bulb - Europ. - RR: 1 - L; Val di Farma (Chiarucci & al. 1993); erroneously indicated also from Mt. Labbro (Maccherini & al. 1994)
Narcissus poeticus L. ! - G bulb - CW Medit. - L: 1,2,5,7 - G
Narcissus pseudonarcissus L. ! - G bulb - Cult. - C: 1,2,5; sporadically naturalized in meadows and woodlands, for example along the Cecina river near Travale
Narcissus serotinus L. ! - G bulb - Medit. - R: 2,4,9 - C,K
Narcissus tazetta L. ! - G bulb - Medit.Macar. - C: 2,4,9 - K,N
†*Nectaroscordum siculum* (Ucria) Lindley - G bulb - CW Medit. - (7); collected on the southern slopes of Mt. Labbro near Banditella first by Savi in 1793 (PI!; Caruel 1860-64) and again in 1889 by Arcangeli and Biondi (FI!; Arcangeli 1889); it has never been observed later and is probably extinct
Pancreatum maritimum L. ! - G bulb - Medit.Atl. - 3,4 - B
Sternbergia colchiciflora Waldst. et Kit. ! - G bulb - OroMedit. - RR: 1,7 - G,I; Cornate di Gerfalco (HS 0675; Frignani & al. 2004) and Mt. Nebbiaio near Castellazzara; the flowering of this rare geophyte, in late summer, is very sporadic and difficult to observe
Sternbergia lutea (L.) Ker Gawl. ! - G bulb - Medit. - C: 2,3,9 - N; in many places occurring only as naturalized

ASPARAGACEAE

- Agave americana* L. - P caesp - occasionally naturalized along the coastal sectors - R: 3,4 - C,N
Anthericum liliago L. ! - G bulb - Eur.Medit. - C: 1,2,5 - K
Asparagus acutifolius L. - G rhiz - Medit. - CC: 1,2,3,4,5,8,9 - K,L
Asparagus maritimus (L.) Mill. ! - G rhiz - Medit. Ir.Tur. - RR: 3 - B; coastal lagoons of La Trappola (Arrigoni 2003) and Diaccia Botrona (HS 0803; Sforzi & Selvi 1999)
Asparagus officinalis L. ! - G rhiz - Eurosib.Medit. - R: 3 - N; plain of the river Bruna and Grosseto, perhaps escaped from cultivation
Asparagus tenuifolius Lam. ! - G rhiz - MidEur.Pont. - R: 1,6 - N; Farma valley in the woodlands near La Pietra (HS 2742) and Mt. Amiata above Piancastagnaio (HS 0805)
Bellevalia romana (L.) Sweet ! - G bulb - Medit. - C: 2,3,4,5,6,7 - G
Bellevalia trifoliata (Ten.) Kunth ! - G bulb - Medit. - RR: 5 - N; very rare in the fields around Magliano San Donato (HS 2389; Betti & al. 2003)
Charybdis maritima (L.) Speta - G bulb - Medit.Macar. - RR: 4 - B; coastal dunes in the Maremma park (Arrigoni 2003) and between Fiumara di San Leopoldo and Marze north of Marina di Grosseto
Loncomelos brevistylus (Wolfn.) Dostál ! - G bulb - Teth. - R: 1,3,7 - K,N
Loncomelos narbonense (L.) Raf. ! - G bulb - Medit. - C: 2,3,5,7,9 - K,N
Loncomelos pyrenaicum (L.) Raf. ! - G bulb - Eur.Medit. - C: 1,2,4,6,7,8 - K,L
Muscari botryoides (L.) Mill. ! - G bulb - MidEur.Medit. - R: 2 - N; meadows along

Fosso Falsacqua and Fosso Righiere near the railway station of Roccastrada (HS 0822, 2525, 2643)

Muscari commutatum Guss. ! - G bulb - Medit. - RR: 4,5 - C; locally abundant on travertine rocks and cliffs on Poggio Bagno Santo near Saturnia (HS 2416; Selvi & Stefanini 2005)

Muscari comosum (L.) Mill. ! - G bulb - Teth.Eur. - CC: 1,2,3,4,5,6,7,8,9 - G,L,N

Muscari neglectum Guss. ex Ten. ! - G bulb - MidEur.Medit. - CC: 1,2,3,4,5,7,9 - H,K,N

Ornithogalum comosum L. ! - G bulb - Eur.Medit. - R: 7,9 - C

Ornithogalum divergens Boreau ! - G bulb - MidEur.Medit. - R: 3,7 - G

Ornithogalum etruscum Parl. ! - G bulb - Endem. (C Apennines) - L: 5,6,7 - C,L; former reports of *O. orthophyllum* Ten. from the sectors 5, 6 and 7 are to be referred to this species; typical forms matching original material (FI!) from Mt. Amiata (Vivo d'Orcia) and description in Garbari & al. (2007) are found in the internal montane sectors (especially no. 7), often in open woods with stony, calcareous soil; flowering is in May

Ornithogalum exscapum Ten. ! - G bulb - Medit. - C: 2,3,4,5,9 - H,K

Ornithogalum gussonei Ten. ! - G bulb - Medit. - C: 1,2,3,4,5,6,7,9 - H,K; according to Garbari & al. (2007) this species is restricted to Sicily and Apulia. However, we provisionally follow a wider traditional concept of the species that allows identification of several collections that appear quite different from the typical forms of *O. etruscum* in their more slender habit, looser and not corymbiform inflorescence, and narrower leaves (1-2 mm) without evident white line; in addition, these populations are located in more thermoxeric habitats at lower altitude and flower much earlier (April)

Ornithogalum umbellatum L. ! - G bulb - Eur.Medit. - C: 1,2,3,4,5,7,9 - G,N

Polygonatum multiflorum (L.) All. ! - G rhiz - Teth.Eur. - L: 1,6,7,8 - L

Polygonatum odoratum (Mill.) Druce ! - G rhiz - Bor. - RR: 1,7 - L; Cornate di Gerfalco (HS 0834; Frignani & al. 2004); also indicated from Mt. Labbro (Baldini 1996)

Prospero autumnale (L.) Speta ! - G bulb - Teth.Eur. - C: 1,2,3,4,5,9 - H,K

Ruscus aculeatus L. ! - G rhiz - Eur.Medit. - CC: 1,2,3,4,5,7,8,9 - K,L

Ruscus hypoglossum L. ! - G rhiz - MidEur.Pont. - R: 1,2 - L; shady, cool forests in the Farma and Albegna valleys (Chiarucci & al. 1993, Frignani & al. 2008) and area of Mt. Leoni (HS 0835, 0836; Selvi 1998)

Scilla bifolia L. ! - G bulb - MidEur.Medit. - C: 1,2,5,6,7,8 - L

ARECACEAE

Chamaerops humilis L. ! - NP - CW Medit. - R: 3,4 - K; sea cliffs at Talamonaccio, Collelungo, Punta Le Rocchette and Punta Ala at Foce di Rio Palma

TYPHACEAE

Typha angustifolia L. ! - G rhiz - Holarct. - C: 2,3,4,5,7,9 - E

Typha domingensis (Pers.) Steud. ! - G rhiz - Paleotrop.Medit. - R: 2 E; ditches, streams and ponds in the plain of river Bruna and Grosseto (HS 3249, 3250); this appears as the first record of this taxon from Tuscany

Typha latifolia L. ! - G rhiz - Holart.Paleotrop. - C: 2,3,4,5,7,8,9 - E

Spartanium erectum subsp. *neglectum* (Beeby) K. Richt. ! - I rad - Eurosib.Medit. - R: 2,9 - E

JUNCACEAE

- ²*Juncus acutiflorus* Ehrh. ex Hoffm. - G rhiz - Eur.Medit. - 9?; indicated from the wet places near Capalbio (Tomei & al. 2001), but not confirmed recently (Lastrucci & al. 2007)
- Juncus acutus* L. ! - H caesp - Eur.Medit. - C: 3,4,5 - B
- Juncus anceps* Laharpe ! - G rhiz - Medit.Atl. - R: 2,3 - E; Mt. Leoni (HS 0673; Selvi 1998) and coastal plain of the Maremma park (Arrigoni 2003)
- Juncus articulatus* L. ! - G rhiz - Eurosib.Teth. - CC: 1,2,3,4,5,6,7,8,9 - E
- Juncus bufonius* L. ! - T caesp - Cosmop. - C: 1,2,3,4,5,7,8,9 - E
- Juncus bulbosus* L. ! - I rad - Europ. - RR: 2 - E; wet places in the northern parts of the Mt. Leoni area (HS 0671, 0672; Selvi 1998)
- Juncus capitatus* Weigel ! - T scap - Eur.Medit. - L: 2 - E; frequent in the Mt. Leoni area (HS 0659, 1874; Selvi 1998)
- Juncus compressus* Jacq. - G rhiz - Eurosib.Medit. - RR: 6 - E; an old collection from Mt. Amiata in the place called "Fonte Antese" (coll. Savi, PI!; Caruel 1860-64)
- Juncus conglomeratus* L. ! - G rhiz - Eurosib. - R: 1,2,7,9 - E
- Juncus effusus* L. ! - H caesp - Subcosmop. - C: 1,2,3,4,6 - E,G
- Juncus fontanesii* J. Gay ! - G rhiz - Medit. Ir.Tur. - R: 2,5 - E
- Juncus gerardii* Loisel. ! - G rhiz - Bor.Teth. - L: 3,4 - B
- Juncus heterophyllus* Desf. ! - I rad - CW Medit.Atl. - RR: 2,9 - D,E; small lake of Marruchetone near Capalbio (HS 2640; Lastrucci & al. 2007) and area of Mt. Leoni near Pian di Muro in a small oligotrophic pond (HS 2693, 2782 2826)
- Juncus hybridus* Brot. ! - T scap - Medit. - L: 3,4 - B
- Juncus inflexus* L. ! - G rhiz - Holart.Paleotrop. - C: 1,2,3,5,7,8,9 - G,L
- Juncus littoralis* C.A. Mey. - H caesp - Medit. - 3,4 - B; coastal plain of the Maremma park (Arrigoni 2003 sub *J. tommasinii* Parl.) and Orbetello lagoon (Andreucci 2004)
- Juncus maritimus* Lam. ! - G rhiz - Subcosmop. - L: 3,4 - B
- Juncus pygmaeus* Rich. ex Thuill. ! - T scap - Eur.Medit. - R: 2,9 - E; wet places near Capalbio (coll. Sommier 1892, FI!), cork oak woodland of Lattaia and area of Mt. Leoni (HS 0660, 0661, 2395; Selvi 1998)
- Juncus sorrentinii* Parl. ! - T caesp - W Medit. - RR: 2 - E; only known from a single collection from the SW slopes of Mt. Leoni between Batignano and Nomadelfia (HS 0664; Selvi 1998)
- Juncus striatus* Schousb. ex E. Mey. ! - G rhiz - Medit. - R: 2,3 - E; Mt. Leoni (HS 0674; Selvi 1998), and coastal plain of the Maremma park (Arrigoni 2003)
- Juncus subnodulosus* Schrank ! - G rhiz - Eur.Medit. - R: 1,2,9
- Juncus subulatus* Forssk. ! - G rhiz - Medit. Ir.Tur. - L: 3,4 - B; Diaccia Botrona (Sforzi & Selvi 1999), and lagoons of La Trappola (Arrigoni 2003) and Orbetello (Andreucci 2004)
- Juncus tenageja* Ehrh. ! - T caesp - Eur.Medit. - R: 2,9 - E; area of Mt. Leoni (HS 0667, 0668, 0669; Selvi 1998) and near Capalbio in the small lake of La Sdriscia (Lastrucci & al. 2007)
- Juncus tenuis* Willd. ! - H caesp - Naturalized - RR: 1 - L; Farma valley, wood along the footpath to the "Canaloni" (HS 3255)
- **Juncus trifidus* L. - an old, unreliable indication by Savi from Mt. Amiata (Caruel 1860-64)

- Luzula campestris* (L.) DC. ! - H caesp - Eur.Medit. - C: 1,2,3,4,5,6,7,8 - L,G
Luzula forsteri (Sm.) DC. ! - H caesp - Eur.Medit. - C: 1,2,3,4,5,6,7,8,9 - K,L
Luzula multiflora (Ehrh.) Lej. ! - H caesp - Bor.Medit. - C: 1,2,4,6 - L,G
Luzula nivea (L.) DC. - H caesp - OroEurop. - 6; collected only once on Mt. Amiata (coll. Targioni Tozzetti 1834, FI!; Caruel 1860-64)
Luzula pilosa (Willd.) DC. ! - H caesp - Eurosib. - R: 1 - L; Farma valley (HS 0645; Chiarucci & al. 1993) and northern slopes of Mt. Sassoforte (HS 2512)
Luzula sylvatica (Huds.) Gaudin ! - H caesp - Europ. - L: 1,6,8 - L

CYPERACEAE

- †*Blasmus compressus* (L.) Panz. - G rhiz - Eurosib. - (4); collected only once near Orbetello (coll. Ricasoli 1844, FI!; Pignotti 2003) and here probably disappeared
Bolboschoenus maritimus (L.) Palla ! - G rhiz - Eurosib.Medit. - C: 2,3,4,9 - B
Carex caryophylla Latourr. ! - H scap - Eurosib. - C: 1,2,3,4,5,6,7,8,9 - G,K
Carex depauperata Curtis ex With. ! - H caesp - Medit.Atl. - R: 1,8,9 - L; woodlands on Mt. Sassoforte (HS 1926; Selvi 2002), upper valley of the river Lente near Sorano (Viciani & al. 2004) and small lake of Marruchetone near Capalbio (coll. Sommier 1892, FI!; HS 2638; Lastrucci & al. 2007)
Carex digitata L. ! - H caesp - Europ. - L: 1,2,8 - L
Carex distachya Desf. ! - H caesp - Medit. - C: 1,2,3,4,5,8,9 - K
Carex distans L. ! - H caesp - Teth.Eur. - C: 2,3,4,5,7 - E
Carex divisa Huds. ! - G rhiz - Teth.Eur. - C: 2,3,4,5 - B,K,N; var. *chaetophylla* (Steud.) Daveau is common in dry meadows, often on sandy acid soils and along the coast; the indication of *C. praecox* Schreb. from Mt. Leoni (Selvi 1998) is to be referred to this taxon
Carex divulsa Stokes ! - H caesp - Teth.Eur. - C: 2,3,4,7 - L,N
Carex elata All. ! - H caesp - Europ. - R: 1 - E; river banks of Farma (HS 2001, 2082) and Ombrone, especially in the latter between Paganico and Campagnatico (HS 3031)
Carex extensa Gooden. ! - H caesp - Teth.Eur. - L: 2,3 - B
Carex flacca Schreb. subsp. *flacca* - G rhiz - Teth.Eur. - CC: 1,2,3,4,5,6,7,8,9 - E,G,L
Carex flacca subsp. *serrulata* (Biv.) Greuter ! - G rhiz - Medit. - C: 1,2,4,9 - E,K,G
Carex grioletii Roem. ! - H caesp - CW Medit.Pont. - R: 1,2 - K; dense and shady woodlands in the Farma and Alma valleys, around the Accessa lake, and in the Mt. Leoni area, where it is fairly frequent (Selvi & Fiorini 1997; Selvi 1998)
Carex halleriana Asso ! - H caesp - Eur.Medit. - RR: 1,2,3,4,5,7,9 - K,L
Carex hirta L. ! - G rhiz - Bor. - C: 2,4,6,7 - E,G
Carex humilis Leyss. ! - H caesp - Bor. - RR: 1 - G; serpentine outcrops of Colle della Miniera near Roccatederighi (HS 0496)
Carex liparocarpos Gaudin ! - G rhiz - MidEur.Pont. - L: 1 - G; dry meadows on limestone on Cornate di Gerfalco (Frignani & al. 2004), Poggi di Prata and other near localities (HS 2197; 3156; Selvi & Stefanini 2005)
†*Carex michelii* Host - H caesp - Medit.Pont. - (3); collected only once by Savi “intorno al padule di Castiglione della Pescaia” (PI!; Caruel 1860-64); probably disappeared
Carex olbiensis Jord. ! - H caesp - CW Medit. - L: 1,2,3 - K
Carex otrubae Podp. ! - H caesp - Teth.Eur. - C: 1,2,3,4,5,9 - E,G

- Carex ovalis* Gooden. ! - H caesp - Eurosib. - RR: 6 - E; Mt. Amiata between the mountain top and Corno di Bellaria (HS 0498; Selvi 1996)
- Carex pallescens* L. ! - H caesp - Eurosib. - R: 1,2,6 - L
- ²*Carex panicea* L. - G rhiz - Bor.Teth. - 3?; indicated by Savi (in Caruel 1860-64) from the wet meadows of the former lake of Castiglione della Pescaia; needs confirmation
- Carex pendula* Huds. ! - H caesp - Teth.Eur. - CC: 1,2,3,5,6,7,8,9 - E,L
- Carex pseudocyperus* L. ! - H caesp - Subcosmop. - RR: 9 - E; Lago Scuro near Manciano (HS 2707)
- Carex punctata* Gaudin ! - H caesp - Medit.Atl. - R: 2 - E; wet places in the woods on the northern slopes of Mt. Leoni and Farma valley (HS 0509, 0510); the indication of *C. strigosa* Huds. from Bosco del Belagaio in the Farma valley (coll. *Morrocchi & al.* 1997, SI!) is to be referred to this species
- Carex remota* L. ! - H caesp - Eur.OroMedit. - 1,2,6,8,9 - G,L
- Carex riparia* Curtis ! - G rhiz - Eurosib.Medit. - L: 2,3,4 - E
- Carex spicata* Huds. - H caesp - Eurosib.Teth. - R: 6 - G; Mt. Amiata between the mountain top and Corno di Bellaria (Selvi 1996)
- Carex sylvatica* Huds. ! - H caesp - Eur.OroMedit. - C: 1,2,6,7,8 - L
- **Carex vesicaria* L. - generically indicated by Savi for Maremma but never observed
- ²*Carex tomentosa* L. - H caesp - Eurosib. - 6?; the specimen from Mt. Amiata near "Montagnola" (coll. *Negri & Corti* 1935, FI!) is incomplete and of doubtful identity; the species needs confirmation (Selvi 1996)
- Cladium mariscus* (L.) Pohl ! - G rhiz - Teth.Eur. - R: 2,3,4 - E
- Cyperus badius* Desf. ! - G rhiz - Paleotrop.Teth. - C: 1,2,3,8 - E,N; considered specifically distinct from *C. longus* (Desfayes 2004)
- Cyperus capitatus* Vand. ! - G rhiz - Medit.Macar. - L: 3,4 - B
- Cyperus flavescens* L. ! - T caesp - Subcosmop. - RR: 2 - E; corkoak woodlands near the railway station of Roccastrada in the locality Pian di Muro (HS 0513)
- Cyperus fuscus* L. ! - T caesp - Eurosib.Medit. - C: 1,2,3,4,5,7,9 - E
- **Cyperus glomeratus* L. - an old indication from the area of Grosseto (Savi in Caruel 1860-64)
- Cyperus longus* L. ! - G rhiz - Teth.Eur. - C: 4,9 - E
- Cyperus rotundus* L. ! - G rhiz - Holart.Paleotrop. - R: 3,4 - N
- Eleocharis multicaulis* (Sm.) Desv. ! - H caesp - W Medit.Atl. - RR: 2 - E; wet and acid places in the corkoak woodlands at the base of the northern slopes of Mt. Leoni, near the locality Pian di Muro (HS 0523; Selvi 1998)
- Eleocharis palustris* (L.) Roem. et Schult. ! - G rhiz - Holarct. - C: 2,3,4,5,9 - E
- Eleocharis uniglumis* (Link) Schult. - G rhiz - Eur.OroMedit. - RR: 4 - E; indicated from the Burano lake (Angiolini & al. 2002)
- †*Eriophorum latifolium* Hoppe - H caesp - Bor. - (6); collected on Mt. Amiata at the former Vivo springs (coll. *Arcangeli & Biondi* 1888, FI!), and disappeared in this place after the capturing of the water (Selvi 1996)
- Isolepis cernua* (Vahl) Roem. et Schult. ! - T scap - Cosmop. - C: 2,3,4,9 - E
- **Isolepis fluitans* (L.) R.Br. - indicated from the former lake of Castiglione d. Pescaia (Savi in Caruel 1860-64) but never recorded from this area (Pignotti 2003)
- †*Isolepis pseudosetacea* (Daveau) Láinz - T caesp - W Medit.Atl. - (9); collected

between Capalbio and Lago Acquato and Piscina dell'Aquila near Marsiliana (coll. *Sommier* 1892 and 1905, FI!) but not confirmed in spite of recent field reserches in these localities (Pignotti 1998, 2003)

Schoenoplectus lacustris (L.) Palla - G rhiz - Eurosib.Medit. - R: 1,2,3,9 - D,E

Schoenoplectus litoralis (Schrad.) Palla ! - G rhiz - Holart.Paleotrop. - R: 3,4,9 - B

†***Schoenoplectus supinus*** (L.) Palla - T scap - Bor.Paleotrop. - (6); collected on Mt.

Amiata at the former springs of Santa Fiora (coll. *Savi* 1789, PI!), but never observed later and probably disappeared (Pignotti 2003)

Schoenoplectus tabernaemontani (C.C. Gmel.) Palla ! - G rhiz - Bor.Teth. - R: 2,3,4,9 - E

?***Schoenoplectus triqueter*** (L.) Palla - G rhiz - Holart.Paleotrop. - 4,9?; the indications from the lakes around Orbetello and Capalbio (Guazzi & Tomei 1993, Tomei & al. 2001) and Diaccia Botrona (Tomei & Guazzi 1993) are most probably to be referred to *S. litoralis* (Schrad.) Palla (Pignotti 2003)

Schoenus nigricans L. ! - H caesp - Holarct.Cap. - L: 2,3 - B,E

Scirpoides holoschoenus (L.) Soják ! - G rhiz - Eurosib.Teth. - C: 1,2,3,4,5,7,8,9 - E,G

Scirpus sylvaticus L. - G rhiz - Eurosib. - RR: 2 - E; river Merse at the junction with Ombrone (coll. *Landi* 1999, SI; Landi & al. 2002); this rare species is not reported from Tuscany south of the river Arno in Pignotti (2003)

POACEAE

Aeluropus littoralis (Gouan) Parl. ! - G rhiz - Teth. - R: 3,4 - B

?***Agrostis canina*** L. - H caesp - Bor. Ir.Tur. - 5?; an old and doubtful quotation from Monteti (Santi in Caruel 1860-64)

Agrostis capillaris L. ! - H caesp - Bor.Teth. - L: 1,6,7 - G

Agrostis castellana Boiss. et Reut. ! - H caesp - MidEur.Medit. - C: 1,2,3,7,8 - G

†***Agrostis curtisii*** Kerguelen - H caesp - Medit.Atl. - (6); collected by G. Savi on Mt.

Amiata, probably on the top of the mountain; the voucher (PI!) is correctly identified (see also Caruel 1860-64 sub *A. rupestris* All., and Caruel 1870 sub *A. setacea* Curtis) and is the only record of this species from Italy (Pignatti 1982); it has never been observed later, in spite of repeated searches in the area, and is probably disappeared

Agrostis gigantea Roth - H caesp - Bor.Medit. - R: 2,3 - E

Agrostis pourretii Willd. ! - T scap - CW Medit. - RR: 2,4,8 - E; plain of the river Bruna, area of Roccastrada (Venaie) and Sorano (Vitozza) (Viciani & al. 2004)

Agrostis stolonifera L. ! - H rept - Bor.Teth. - C: 1,2,3,4,5,6,7,8,9 - G

Aira caryophylla L. ! - T scap - Subcosmop. - C: 1,2,6,7,8,9 - H,K

Aira cupaniana Guss. ! - T scap - Medit. - R: 2,4 - H,K

Aira elegantissima Schur ! - T scap - Teth.Eur. - CC: 1,2,3,4,5,7,8,9 - H,K

Aira intermedia Guss. ! - T scap - Medit. - R: 1,2,3 - H,K

Airopsis tenella (Cav.) Asch. et Graebn. ! - T scap - CW Medit. - RR: 2 - H; hills of Tirli (Pignatti-Wikus 1966) and Nomadelfia (HS 1270; Selvi 1998)

Alopecurus bulbosus Gouan ! - H caesp - Eur.Medit. - R: 2,3,4 - G,E

Alopecurus aequalis Strobl. ! - H caesp - Eurosib. - R:1,6,9 - E; small lake near Montieri, Lagaccioli near Capalbio (Sommier in Baroni 1908) and Mt. Amiata (HS 1272)

Alopecurus myosuroides Huds. ! - T scap - Teth.Eur. - C: 1,2,3,5 - G,N

- Alopecurus pratensis* L. ! - H caesp - Bor. - RR: 9 - E; small lakes near Capalbio (HS 2646, Lastrucci & al. 2007)
- Alopecurus rendlei* Eig ! - T scap - Eur.Medit. - R: 7,9 - E; near Castellazzara (HS 2043) and Capalbio in the small lake Marruchetone (HS 2653; Lastrucci & al. 2007)
- Ammophila arenaria* subsp. *australis* (Mabille) Lainz ! - G rhiz - Medit. - L: 3,4 - B
- Ampelodesmos mauritanicus* (Poir.) T. Durand et Schinz ! - H caesp - Medit. - CC: 1,2,3,4,5,7,8,9 - H,K
- Andropogon distachyos* L. ! - H caesp - Paleotrop.Teth. - RR: 2,9 - K; near Sticciano (HS 2351) and Capalbio (coll. *Sommier* 1892, FI!)
- Anthoxanthum aristatum* Boiss. - T scap - Medit. - 4; indicated from the Uccellina hills in the Maremma park (Arrigoni 2003) and the Orbetello lagoon (Andreucci 2004). The indication from Campiglia M.ma (Fiori 1923, Pignatti 1982, Conti & al. 2005) should be referred to *A. ovatum* Lag. (Valdés 1973).
- Anthoxanthum odoratum* L. ! - H caesp - Holarct. - CC: 1,2,5,6,7,8 - G,K,H,N; as observed by Gamisans & Jeanmonod (2007), this species is extremely polymorphic in especially the habit, and includes typical perennial forms with sterile shoots from the base (in mesic habitats), as well as annual, slender forms with a simple stem (in dry habitats at low altitude); these can be easily confused with *A. aristatum*
- Anthoxanthum ovatum* Lag. ! - T caesp - Medit. - R: 1 - H; collected by Fiori near Roccatederighi (FI, see Valdés 1973), I found it in the same area on Colle della Miniera (HS 2859). The species is not recorded from Tuscany in Conti & al. (2005)
- Arrhenatherum elatius* (L.) Beauv. ex J. et C.Presl ! - H caesp - Eur.Medit. - C: 1,6,7,8 - G
- ?*Arundo collina* Ten. - G rhiz - Medit. - L: 1?,5? - G; according to Danin (2004), the populations of small size with slightly bifid lemmas from central Italy, occurring on clayey hill slopes of mainly the central hill sector, should be referred to this taxon rather than to *A. plinii* Turra. This entity, however, is not quoted for Italy in Conti & al. (2005) and its taxonomic status is still to be assessed
- Arundo donax* L. - G rhiz - Cult. (naturalized) - C: 1,2,3,5,8 - N
- Arundo plinii* Turra - G rhiz - Medit. - L: 2,3,4 - E; mainly in ditches and ponds in the coastal sectors
- Avena barbata* Potter ! - T scap - Bor.Teth. - CC: 1,2,3,4,5,7,8,9 - H,N
- Avena fatua* L. - T scap - Cosmop. - C: 3,4,5 - H,N
- Avena sativa* L. - T scap - locally naturalized (or escaped from culture) - R: 6 - N
- Avena sterilis* L.! - T scap -Teth. Pont. - R: 3 - B; the indication of *A. sterilis* subsp. *ludoviciana* (Durieu) Gillet et Magne from the Maremma park (Arrigoni 2003, FI!) is referred here
- Avenula bromoides* (Gouan) H. Scholz - H caesp - W Medit. - RR: 4 - H; collected near Capalbio by Savi (PI!; Caruel 1860-64) and, again, on the Uccellina hills near Talamone (FI!; Arrigoni 2003)
- Beckmannia eruciformis* (L.) Host ! - G rhiz - Bor. - RR: 9 - E; only known from the small lake of Marruchetone near Capalbio (HS 2403; Lastrucci & al. 2007)
- Bothriochloa ischaemum* (L.) Keng ! - H caesp - Bor.Teth. - C: 1,2,5 - H,K
- Brachypodium phoenicoides* (L.) Roem. et Schult. - H caesp - Medit. - RR: 4 - H; Burano lake (Angiolini & al. 2002)

- Brachypodium retusum*** (Pers.) P. Beauv. ! - H caesp - Medit. - CC: 1,2,3,4,9 - H,K
- Brachypodium rupestre*** (Host) Roem. et Schult ! - H caesp - Eurosib.Medit. - CC: 1,2,4,5,6,7,8,9 - G,I,L
- Brachypodium sylvaticum*** (Huds.) P. Beauv. ! - H caesp - Teth.Eur. - C: 1,2,3,4,5,6,7,8,9 - L
- Briza maxima*** L. ! - T scap - Medit. - C: 1,2,3,4,5,6,7,8,9 - H
- Briza media*** L. ! - H caesp - Europ. - RR: 7 - G; grassy slopes on clayey soil near Castellazzara at La Sforzesca (HS 2842), Seggiano near Altore (HS 3173) and Mt. Labbro (coll. *Biondi* 1888, FI!)
- Briza minor*** L. ! - T scap - Medit.Atl. - C: 1,2,3,4 - H
- Bromus arvensis*** L. ! - T scap - Eurosib.Medit. - C: 1,3,5,6,7 - G
- Bromus benekenii*** (Lange) Trimen - H caesp - Eur.OroTeth. - !?; indicated from the Farma valley, probably by confusion with *B. ramosus*; not confirmed by Chiarucci & al. (1993).
- Bromus commutatus*** Schrad. ! - T scap - Eur.Medit. - R: 2,7 - H,N
- Bromus diandrus*** Roth - T scap - Medit. Ir.Tur. - R: 3,4,5 - N
- Bromus erectus*** Huds. ! - H caesp - Teth.Eur. - C: 1,2,3,4,5,6,7,9 - G,I
- Bromus hordeaceus*** L. subsp. ***hordeaceus*** ! - T scap - Teth.Eur. - CC: 1,2,3,4,5,6,7,8,9 - G,H,N
- Bromus hordeaceus*** subsp. ***molliformis*** (Lloyd ex Godr.) Maire et Weiller - T scap - Eur.Medit. - R: 1,3,4 - H,N
- Bromus inermis*** Leyss. ! - H caesp - Cult. - RR: 6 - N; introduced on the ski tracks of Mt. Amiata
- Bromus intermedius*** Guss. ! - T scap - Medit. - R: 2,3,4 - H,N
- Bromus madritensis*** L. ! - T scap - Teth.Eur. - C: 1,2,3,4,5,7,9 - N
- Bromus racemosus*** L. ! - T scap - Eur.Medit. - RR: 3,4 - G; wet, salty meadows at Camporegio (HS 1300) and coastal plain of La Trappola near the mouth of river Ombrone; the indication of *B. secalinus* L. from the latter locality (Arrigoni 2003; FI!) is referred here
- Bromus ramosus*** Huds. ! - H caesp - Europ. - R: 1,2,5,7 - L
- Bromus rigidus*** Roth ! - T scap - Teth.Eur. - C: 1,2,3,4,5,9 - B,N
- Bromus squarrosus*** L. ! - T scap - Teth.Eur. - L: 7 - G; Mt. Buceto (HS 3268) and Mt. Labbro (Maccherini & al. 1994); indicated also from Grosseto (Santi in Caruel 1860-64)
- Bromus sterilis*** L. ! - T scap - Eurosib.Teth. - CC: 1,2,3,4,5,7,8,9 - N
- **Bromus tectorum* L. - an old and unreliable indication from Ansidonia (Santi in Caruel 1860-64)
- Calamagrostis epigejos*** (L.) Roth ! - H caesp - Bor.Teth. - R: 1,2,4,6,7 - G
- Catabrosa aquatica*** (L.) P. Beauv. - G rhiz - Bor.Teth. - RR: 9 - E; collected "in Maremma" by Ricasoli (FI sub *Aira aquatica*!) and at the Chiarone springs near Capalbio (coll. *Sommier* 1892, FI!); not observed in more recent times.
- Catapodium balearicum*** (Willk.) H. Scholz ! - T scap - Medit.Atl. - R: 3,4 - B; Punta Ala (HS 2946) and Uccellina hills (Arrigoni 2003).
- Catapodium hemipoa*** (Delile ex Spreng.) Lainz ! - T scap - Medit. - R: 3 - B
- Catapodium rigidum*** (L.) C.E. Hubb. ! - T scap - Teth. Atl. - CC: 1,2,3,4,5,7,8,9 - B,H,N
- Cenchrus incertus*** Curtis - T scap - Naturalized - RR: 4 - B; indicated from the Burano lake (Angiolini & al. 2002)

- Chrysopogon gryllus* (L.) Trin. ! - H caesp - Holart.Paleotrop. - R: 1,2,9 - G; Merse valley at Casenovole on serpentine outcrops (HS 2978), and near Sticciano (HS 1316) and Capalbio (HS 2126) on calcareous rocks
- Cleistogenes serotina* (L.) Keng ! - H caesp - Eur.Medit. - L: 2,4,5 - G,H
- Corynephorus divaricatus* (Pourr.) Breistr. - T scap - Medit. - RR: 3,4 - B; dunes of Follonica (coll. Fiori 1901, FI!), Capalbio and Burano (coll. Perini & al. 1988, 1991, SI!; Angiolini & al. 2002)
- Crypsis aculeata* (L.) Aiton ! - T scap - Teth.Eur. - L: 3,4 - B
- Crypsis schoenoides* (L.) Lam. ! - T scap - Holart.Paleotrop. - R : 3,4,9 - E
- Cutandia maritima* (L.) Barbey ! - T scap - W Medit. - L: 3,4 - B
- Cynodon dactylon* (L.) Pers. ! - H rept - Subcosmop. - CC : 1,2,3,4,5,6,7,8,9 - N
- Cynosurus cristatus* L. ! - H caesp - Europ. - C: 1,2,5,6,7,8 - G,L
- Cynosurus echinatus* L. ! - T scap - Teth.Eur. - C: 1,2,3,4,5,6,7,8,9 - H,N
- ?*Cynosurus effusus* Link - T scap - Medit. - 3?; indicated from the Maremma park but not confirmed (Ciancio in Arrigoni 2003 sub *C. elegans* Desf.),
- Dactylis glomerata* L. subsp. *glomerata* - H caesp - Bor.Teth. - CC: 1,2,3,4,5,6,7,8,9 - G,L,N
- Dactylis glomerata* subsp. *hispanica* (Roth) Nyman ! - H caesp - Medit. - C: 1,2,5,7 - B,G
- Danthonia alpina* Vest ! - H caesp - Eurosib. - L: 1 - G; on serpentine outcrops near Roccatederighi (HS 1327), siliceous quartzites in the Farma valley (HS 2084) and dry, clayey meadows near Monterotondo M.mo (HS 1803)
- Danthonia decumbens* (L.) DC. ! - H caesp - Eur.OroMedit. - L: 1,2 - G,L
- Dasypyrum villosum* (L.) Candargy ! - T scap - Medit.Pont. - C: 2,3,4,5,7,9 - H,K,N
- Deschampsia cespitosa* (L.) P. Beauv. ! - H caesp - Subcosmop. - R: 1,2 - G; banks of the rivers Farma (HS 2334; Chiarucci & al. 1993), Merse and Ombrone (HS 3029)
- Deschampsia flexuosa* (L.) Trin. ! - H caesp - Subcosmop. - R: 1,6,7 - L
- Deschampsia media* (Gouan) Roem. et Schult. ! - H caesp - W Medit.Atl. - RR: 5 - G; a rare species known in Italy only from Tuscany and, doubtfully, Liguria (Pignatti 1982; Conti & al. 2005). In Tuscany it was indicated from Rapolano in the Siena province, Mt. Pisano and Mt. Amiata (Caruel 1860-64), based on collections by Savi dated 1843 (FI!). In the Mt. Pisano area it is not observed since long time, and is apparently disappeared (Pierini & al. 2009). Likewise, no records seem to exist from the Siena province after Savi. The locality near Montenero on the hills in the Ente valley (HS 2808, 2870) seems the only site currently confirmed in Italy for this rare species
- Digitaria ischaemum* (Schreb. ex Schweigg.) Schreb. ex Muhl. - T scap - Subcosmop. - RR: 4 - N; indicated from the Burano lake (Angiolini & al. 2002)
- Digitaria sanguinalis* (L.) Scop. - T scap - Cosmop. - L: 1,3,4 - N
- Echinochloa crus-galli* (L.) P.Beauv. - T scap - Naturalized - CC: 1,2,3,4,5 - N
- Elymus athericus* (Link) Kerguélen ! - G rhiz - Medit.Atl. - C: 3,4,5 - B,G
- Elymus caninus* (L.) L. ! - H caesp - Eurosib. - C: 1,2,5,6,7,8 - L
- Elymus elongatus* (Host) Runemark - H caesp - W Medit. - R: 3 - B; salt marsh of Scarlino (Viciani & al. 2001 sub *Elytrigia elongata* (Host) Nevski) and coastal plain of the Maremma park (Arrigoni 2003)
- Elymus farctus* (Viv.) Runemark ex Melderis ! - G rhiz - Medit. - L: 3,4 - B
- Elymus repens* (L.) Gould. ! - G rhiz - Bor.Teth. - C: 1,2,3,4,5,7,9 - G,N

- Eragrostis curvula* (Schrad.) Nees ! - H caesp - Naturalized - L: 3 - N; Punta Ala (HS 2951, 2989; Selvi 2009a)
- Eragrostis cilianensis* (All.) Janch. ! - T scap - Cosmop. - R: 2; near Sticciano (HS 2032) and Roccatederighi (HS 2491) - N
- Eragrostis minor* Host ! - T scap - Bor.Teth. - RR: 2 - N; pastures near Sticciano (HS 2033)
- Eragrostis pilosa* (L.) P. Beauv. ! - T scap - Holart.Paleotrop. - RR: 2 - N; fields in the plain near Sticciano (HS 2034) and Braccagni (HS 2874)
- Erianthus ravennae* (L.) P. Beauv. ! - H caesp - Teth. - L: 3 - L; rear part of coastal dunes near Marina di Grosseto (HS 1331) and Maremma park
- Festuca altissima* All. ! - H caesp - Eurosib. - R: 1,6 - L; rocky slopes in beech forests on Mt. Sassoforte (HS 1333), Mt. Amiata (HS 1332; Selvi 1996) and Mt. Penna (HS 3173)
- Festuca arundinacea* Schreb. subsp. *arundinacea* ! - H caesp - Eur.Medit. - C: 1,2,5,6,7 - G
- Festuca arundinacea* subsp. *fenas* (Lag.) Arcang. ! - H caesp - Eur.Medit. - R: 1,2,3 - B,G; on slightly saline soils
- Festuca arundinacea* subsp. *mediterranea* (Hack.) K. Richt. ! - H caesp - Medit. - R: 3,4,7 - G
- Festuca gigantea* (L.) Vill. ! - H caesp - Eurosib.Teth. - RR: 5,8 - L; shady forests in the upper valley of the river Lente near Sorano (HS 2142; Viciani & al. 2004) and river Ente near Podere Rogaggio, Castel del Piano (HS 3040)
- Festuca heteromalla* Pourr. ! - H caesp - Naturalized - R: 6 - N; introduced in the ski tracks of Mt. Amiata (HS 1337; Selvi 1996)
- Festuca heterophylla* Lam. ! - H caesp - Europ. - C: 1,2,5,6,7,8 - L
- Festuca inops* De Not. ! - H caesp - Medit. Appenn. - C: 1,2,4,7,9 - G
- Festuca pratensis* Huds. - H caesp - Eurosib.Teth. - R: 1,7 - G; indicated from the Farma valley (Bergman in Chiarucci & al. 1993) and Poggio all'Olmo (Maccherini & al. 2001)
- Festuca robustifolia* Markgr.-Dann. ! - H caesp - Endem. (Tuscany) - RR: 1 - G; serpentine outcrops of Colle della Miniera near Roccatederighi (HS 1341) and Fosso Lescone near Casenovole in the Merse valley (HS 2974)
- Festuca rubra* subsp. *commutata* (Gaudin) Markgr. ! - Dann. - H caesp - Europ. - RR: 6 - G; Mt. Amiata (HS 1340; Selvi 1996)
- Festuca rubra* L. subsp. *rubra* ! - H caesp - Subcosmop. - R: 2,6,7 - G
- Festuca stricta* subsp. *trachyphylla* (Hack.) Patzke ex Pils ! - H caesp - Europ. - C: 5,6,7 - G; the indication of *F. circummediterranea* Patzke from Mt. Labbro (Maccherini & al. 1994) is referred here
- Festuca tricophylla* (Ducros ex Gaudin) K. Richt. subsp. *tricophylla* ! - H caesp - Europ. - R: 1,5 - G; clayey meadows around Mt. Amiata (HS 2817) and near Monterotondo M.mo (in obs. !)
- Festuca tricophylla* subsp. *asperifolia* (St.Yves) Al - Bermani ! - H caesp - Europ. - RR: 6 - C; volcanic rocks (trachyte) on the top of Mt. Amiata (HS 1346; Selvi 1996)
- Gastridium ventricosum* (Gouan) Schinz et Thell. ! - T scap - Teth.Eur. - C: 2,3,4,5 - H
- Gaudinia fragilis* (L.) P. Beauv. ! - T scap - Eur.Medit. - CC: 1,2,3,4,5,7,8,9 - G,N
- Glyceria fluitans* (L.) R.Br. ! - G rhiz - Bor.Medit. - R: 1,4,9 - E
- ?*Glyceria maxima* (Hartm.) Holmb. - G rhiz - Eurosib. - 3,4?; old citations from the former lagoon of Talamone (Santi in Caruel 1860-64) and lake of Castiglione (Savi in Caruel 1860-64, Tomei & Guazzi 1993)

- Glyceria notata* Chevall. ! - G rhiz - Teth.Eur. - C: 2,6,7,9 - G
- Hainardia cylindrica* (Willd.) Greuter ! - T scap - Medit. IrTur. - C: 1,2,3,4,5 - B,N
- Holcus lanatus* L. ! - H caesp - Eur.Medit. - C: 1,2,4,5,6,7,8,9 - G,L
- Holcus mollis* L. ! - H caesp - Europ. - R: 1,6,7 - L
- ²*Hordeelymus europaeus* (L.) Harz - H caesp - Europ. - ? indicated from Mt. Labbro (Baldini 1996) without support of herbarium records or other observations; the record from the Merse river (Landi & al. 2002) in the Siena province is not documented by herbarium collections (Landi, in litt.); the presence in south Tuscany of this rare nemoral grass is doubtful
- Hordeum bulbosum* L. - H caesp - Paleotrop.Teth. - RR: 9 - G; indicated by Savi from Saturnia and collected near Capalbio at Tricosto (coll. *Sommier* 1892, FI!)
- Hordeum marinum* Huds. ! - T scap - Teth.Eur. - R: 3 - B; Diaccia Botrona (HS 1369; Sforzi & Selvi 1999) and coastal plain of the Maremma park (Arrigoni 2003)
- Hordeum murinum* subsp. *leporinum* (Link) Arcang. ! - T scap - Medit.Pont. - CC - N: 1,2,3,4,5,7,9
- Hordeum murinum* L. subsp. *murinum* - T scap - Eur.Medit. - C: 1,2,4,7 - N
- Hyparrhenia hirta* (L.) Stapf ! - H caesp - Paleotrop.Medit. - R: 2,4,9 - H,K
- Imperata cylindrica* (L.) P. Beauv. ! - G rhiz - Paleotrop.Teth. - R: 2,3,4 - L
- Koeleria lobata* (M. Bieb.) Roem. et Schult. ! - H caesp - Eur.OroMedit. - R: 1,2,7 - I
- ²*Koeleria macrantha* (Ledeb.) Spreng. [= *K. cristata* (L.) Roem. et Schult.] - H caesp - Bor. - ?; indicated from Mt. Labbro (Baldini 1996); needs confirmation
- Lagurus ovatus* L. ! - T scap - Medit.Atl. - L: 3,4,5 - B
- Leersia oryzoides* (L.) Swartz - G rhiz - Holarct. - RR: 2 - E; collected in the river Bruna plain at Tenuta Acquisti near Braccagni (coll. *Corradi* 1946, FI!) and recently also in the lower river Merse (Landi & al. 2002)
- Lolium multiflorum* Lam. - H scap - Teth. Eur. - C: 1,2,3,5,7,9 - G,N; including *L. multiflorum* subsp. *gaudinii* (Parl.) Schinz et Thell, a taxon of doubtful taxonomic value
- Lolium perenne* L. ! - H caesp - Teth.Eur. - C: 1,2,3,5,6,7,8 - G,N
- Lolium rigidum* Gaudin ! - T scap - Eur.Medit. - C: 2,3,4,5 - G,H
- Melica arrecta* Kunze ! [= *M. minuta* subsp. *major* (Parl.) Trab.] - H caesp - Medit. - C: 2,3,4,9 - K; the indication of *M. minuta* L. from Burano (Angiolini & al. 2002) is referred here; *M. minuta* ssp. *minuta* does not occur in Maremma
- Melica ciliata* L. subsp. *ciliata* ! - H caesp - Eur.Medit. - C: 1,5,7 - C,G,K
- Melica ciliata* subsp. *magnolii* (Godr. et Gren.) K. Richt. ! - H caesp - W Medit. - C: 2,3,7 - C
- Melica nutans* L. ! - H caesp - Eurosib. - RR: 5 - L; mesophilous wood along the river Ente (Castel del Piano) near Pod. Rogaggio (HS 2791) and "Puntone" at the junction with the Vivo stream (HS 3266)
- Melica transsilvanica* Schur (= *M. typhina* Bor.) ! - H caesp - Eurosib.Teth. - C: 1,2,3,5,7,8,9 - C,I,G; the distinction from *M. ciliata* ssp. *magnolii* is often uncertain
- Melica uniflora* Retz. ! - H caesp - Eur.OroMedit. - C: 1,2,4,5,6,7,8 - L
- Micropyrum tenellum* (L.) Link ! - T scap - Eur.Medit. - RR: 1 - G; rare on jasper outcrops on Colle della Miniera near Roccatederighi (HS 2527)
- Milium effusum* L. ! - G rhiz - Bor. - R: 6,8 - L; beech forests on Mt. Amiata (Selvi 1996), Mt. Penna and river Lente valley near Sorano (HS 1387; Viciani & al. 2004)

- Molineriella minuta* (L.) Rouy - T scap - Medit. - RR: 3,9 - B; collected near Capalbio at lago Acquato and Monteti, and near Follonica (coll. *Sommier* 1876, 1892, 1894, FI!; *Sommier* 1892a), but not observed later
- Molinia arundinacea* Schrank ! - H caesp - Europ. - C: 1,2,5 - G,L
- Nardus stricta* L. - H caesp - Bor. OroMedit. - RR: 6 - G; two collections from Mt. Amiata (coll. *Savi*, FI!; *Savi* in *Caruel* 1860-64; coll. *Negri & Corti* 1935, FI!), but not observed recently
- Panicum repens* L. ! - G rhiz - Subcosmop. - RR: 4 - B; humid coastal sands at the mouth of the Albegna river (HS 2713) and Burano lake (Angiolini & al. 2002)
- Parapholis filiformis* (Roth) C.E. Hubb. - T scap - Medit. - L: 3,4 - B
- Parapholis incurva* (L.) C.E. Hubb. ! - T scap - Teth.Eur. - L: 3,4 - B
- Parapholis pycnantha* (Hack.) C.E. Hubb. ! - T scap - Medit. - C: 2,3,4,5 - B,G
- Parapholis strigosa* (Dumort.) Hubb. ! - T scap - Medit.Atl. - L: 3,4 - B; salt marsh of Scarlino (HS 1389; *Viciani & al.* 2001), and Orbetello lagoon (*Andreucci* 2004)
- Paspalum dilatatum* Poir. ! - H caesp - Naturalized - C: 1,2,3 - N
- Paspalum distichum* L. ! - G rhiz - Naturalized - C: 2,3,4 - N
- Phalaris aquatica* L. ! - H caesp - Medit.Macar. - R: 2,3 - G, N
- Phalaris arundinacea* L. ! - G rhiz - Holarct. - L: 2,9 - E; locally abundant along the Bruna river (HS 1392) and San Floriano lake (HS 2569)
- Phalaris brachystachys* Link ! - T scap - Medit.Macar. - R: 3,4,5,9 - N
- Phalaris caerulea* Desf. ! - H caesp - Medit.Macar. - C: 2,3,4,5,7 - N
- Phalaris canariensis* L. ! - T scap - Medit.Macar. - 4 : RR - N; Talamone (HS 2995)
- Phalaris minor* Retz. ! - T scap - Teth. - R: 2,3,4 - N
- Phalaris paradoxa* L. ! - T scap - Teth. - C : 2,3,4,5 - N
- Phalaris truncata* Guss. - H caesp - Medit. - R: 3,4 - N
- Phleum ambiguum* Ten. ! - G rhiz - C Medit. - C: 1,2,4,5,7 - G,I
- Phleum arenarium* subsp. *caesium* H. Scholz - T scap - Medit.Atl. - R: 3,4 - B
- Phleum bertolonii* DC. - H caesp - Eurosib.Teth. - C: 1,2,5,7 - G
- Phleum hirsutum* Honck. - G rhiz - OroEurop. - R:1,5 - G
- ?*Phleum paniculatum* Huds. - T scap - Medit. Ir.Tur. - 2?; indication for the ancient urban walls of Grosseto (*Lisci* 1997), not supported by herbarium records
- Phleum pratense* L. ! - H caesp - Bor.Teth. - C: 1,2,3,5,6,7,8,9 - G
- Phleum subulatum* (*Savi*) *Asch. et Graebn.* ! - T scap - Medit. Ir.Tur. - C: 2,4,5,8,9 - H
- Phragmites australis* (Cav.) *Trin. ex Steud.* - G rhiz - Holarct.Paleotrop. - CC: 1,2,3,4,5,6,7,8,9 - E
- Piptatherum miliaceum* (L.) *Coss.* subsp. *miliaceum* ! - H scap - Medit.Macar. - CC: 2,3,4,5,9 - N
- Piptatherum miliaceum* subsp. *thomasi* (*Duby*) *Freitag* - H caesp - Medit. Ir.Tur. - RR: 4 - N; indicated from the Burano lake (Angiolini & al. 2002)
- Piptatherum virescens* (*Trin.*) *Boiss.* ! - H caesp - Eurosib. - RR: 9 - L; only known from Mt. Nebbiello near Capalbio (HS 2120; *Selvi* 2002)
- Poa alpina* L. ! - H caesp - Holarct. - RR: 6 - M; only known from top of Mt. Amiata (HS 1977; *Selvi* 1996)
- Poa annua* L. ! - T caesp - Cosmop. - CC: 1,2,3,4,5,6,7,8,9 - H,L,N
- Poa bulbosa* L. ! - H caesp - Eurosib.Teth. - CC: 1,2,3,4,5,6,7,8,9 - H,L,N
- Poa compressa* L. ! - H caesp - Eur.OroMedit. - C: 1,2,6,7 - G

- Poa infirma* Kunth ! - T caesp - Teth.Eur. - R: 3,4 - N
- Poa nemoralis* L. ! - H caesp - Bor.Teth. - C: 1,6,7 - L
- Poa pratensis* L. ! - H caesp - Holarct. - C: 1,2,6,7,8,9 - G,L,N
- Poa sylvicola* Guss. ! - H caesp - Teth. - C: 1,2,5,6,7,8,9 - L
- Poa trivialis* L. ! - H caesp - Holart.Paleotrop. - C: 1,2,3,4,5,6,7,8,9 - G,N
- Polypogon monspeliensis* (L.) Desf. ! - T scap - Holart.Paleotrop. - C: 3,4,5,9 - B
- Polypogon subspathaceus* Req. ! - T scap - Medit. - R: 3 - B; mouth of fosso Tonfone between Castiglione d. Pescaia and Rocchette (HS 2555) and coastal plain of the Maremma park (Arrigoni 2003)
- Polypogon viridis* (Gouan) Breistr. ! - H caesp - Teth.Eur. - R: 2,5 - E
- Psilurus incurvus* (Gouan) Schinz et Thell. ! - T scap - Medit. Ir.Tur. - C: 1,2,3,5 - H
- Puccinellia convoluta* (Hornem.) Hayek - H caesp - Medit. - L: 3,4 - B; lagoon of La Trappola in the Maremma park (Arrigoni 2003) and Burano lake (Angiolini & al. 2002)
- Puccinellia festuciformis* (Host) Parl. ! - H caesp - Medit. - L: 3 - B
- Rostraria cristata* (L.) Tzvelev ! - T caesp - Teth.Eur. - C: 1,2,3,4,5,7,9 - H,N
- Rostraria hispida* (Savi) Dogan - T scap - Medit. - RR: 3 - B ; near Castiglione d. Pescaia (coll. *Gabrielith & Corradi* 1933, FI!) and coastal plain of the Maremma park (Arrigoni 2003)
- Rostraria litorea* (All.) Holub ! - T scap - Medit. - R: 3 - B; relatively frequent in the costal dunes of the northern sector (HS 1375)
- Sesleria argentea* (Savi) Savi ! - H caesp - Apenn.Balk. - RR: 1 - I,L; Cornate di Gerfalco (HS 1424, 2348; Frignani & al. 2004)
- Sesleria italica* (Pamp.) Ujhelyi ! - H caesp - Endem. (central and northern Apennines) - L: 5,6,7 - L; frequent in scrub, open woods and rocky habitats on the mountains around Mt. Amiata, on clayey and calcareous soil; also at low altitudes in streambeds (e.g.: Trasubbie and Melacce; Frignani & al. 2007b)
- Sesleria tenuifolia* Schrad. ! (= *S. juncifolia* Suffren, nom. nud.) - H caesp - Apenn.Balk. - R: 1,7 - C; Poggi di Prata (HS 2184) and Mt. Penna (HS 1427)
- Setaria pumila* (Poir.) Roem. & Schult. - T scap. - Cosmop. - R: 3,4 - N
- Setaria verticillata* (L.) P. Beauv. ! - T scap - Cosmop. - R: 2,3,4,5 - N; the record from Tenuta Acquisti between Braccagni and Grosseto (coll. *Corradi* 1946, FI!) was referred to *S. adhaerens* (Forssk.) Chiov. (Banfi 1989); this taxon should correspond to *S. verticillata* ssp. *aparine* (Steud.) T. Durand & Schinz, currently included by several authors in typical *S. verticillata*
- Setaria viridis* (L.) P. Beauv. - T scap - Cosmop. - C: 1,2,4,5 - N
- Sorghum halepense* (L.) Pers. ! - G rhiz - Subcosmop. - C: 1,2,3,4,5 - N
- Spartina versicolor* Fabre ! - G rhiz - N Amer. Europ.(Naturalized) - L: 3,4 - B; locally abundant on the dunes of Follonica (Puntone) where it was probably introduced, also in the more natural sandy coast south of Castiglione d. Pescaia; it is usually sterile
- Sphenopus divaricatus* (Gouan) Rchb. ! - T scap - Teth. - RR: 4 - B; gulf of Talamone (HS 1897) and coastal plain of the Maremma park (Arrigoni 2003)
- Sporobolus virginicus* Kunth ! - G rhiz - Medit.Macar. - L: 3,4 - B
- Stipa bromoides* (L.) Dörfel. ! - H caesp - Eur.Medit. - C: 2,3,4,5 - H,K

- Stipa capensis*** Thunb. ! - T scap - Teth. - R: 2,4 - H,N; Uccellina hills (Arrigoni 2003), Poggio di Moscona (HS 2630) hills near Capalbio and Orbetello (coll. *Sommier* 1892, FI!)
- Stipa eriocaulis*** Borbás ! - H caesp - Eur.Medit. - R: 2,9 - G; dry calcareous grasslands and rocky slopes on limestone, e.g. Uccellina hills (Arrigoni 2003), Poggio di Moscona near Grosseto (HS 2633), hills of Capalbio (HS 2737) and other places. According to Moraldo & Ricceri (2003), neither *S. eriocaulis* nor *S. pennata* occur in Tuscany (see also Conti & al. 2007), so that the populations of the *S. pennata* s.l. group from the calcareous habitats of Maremma are still waiting for a taxonomic placement
- Stipa etrusca*** Moraldo ! - H caesp - Endem. (Tuscany) - RR: 1 - G; serpentine outcrops in the valley of Fosso Lescone near Casenovole, Merse basin (HS 2896, 2967)
- Trachynia distachya*** (L.) Link ! - T scap - Medit. Ir.Tur. - C: 1,2,3,4,5 - H
- Trisetaria michelii*** (Savi) D. Heller ! - T scap - Medit. - R: 2,3,4 - B
- Trisetaria panicea*** (Lam.) Maire ! - T scap - CW Medit. - C: 2,3,5,9 - H,N; the indication of *T. aurea* (Ten.) Pignatti from Trasubie (Frignani & al. 2007b; SI!) is referred here
- Triticum neglectum*** (Req. ex Bertol.) Greuter - T scap - Eur.Medit. - R: 7,9 - N; collected near Capalbio (coll. *Sommier* 1892 FI sub *Aegilops neglecta* Req.!) and quoted from Mt. Labbro (Caruel 1870, Baldini 1996)
- Triticum ovatum*** (L.) Raspail ! - T scap - Medit.Pont. - C: 1,2,3,4,5,6,7,8,9 - G,H,N
- Triticum triunciale*** (L.) Raspail ! - T scap - Teth. - R: 1,2,5,7 - G,N
- Ventenata dubia*** (Leers) Coss. - T scap - Eur.OroMedit. - RR: 6 - G; collected only once on Mt. Amiata near Castel del Piano (coll. *Fiori* 1919, FI!)
- Vulpia alopecurus*** (Schousb.) Dumort. - T caesp - W Medit. - RR: 4; an old collection from Ansedonia (coll. *Savi*, PI sub *Festuca alopecurus* Schousb.!: Caruel 1860-64)
- Vulpia bromoides*** (L.) Gray ! - T caesp - Teth.Eur. - C: 2,3,6,7,8 - H,N
- Vulpia ciliata*** Dumort. ! - T caesp - Eur.Medit. - C: 1,2,4,5,6,7,9 - G,H,N
- Vulpia fasciculata*** (Forssk.) Fritsch. ! - T caesp - Medit.Atl. - L: 3,4 - B
- Vulpia geniculata*** (L.) Link ! - T caesp - W Medit. - RR: 4 - H; dry calcareous hills near Orbetello (coll. *Fiori* 1919, FI!; HS 2631)
- Vulpia ligustica*** (All.) Link ! - T caesp - Medit. - C: 1,2,3,4 - H,N
- Vulpia muralis*** (Kunth) Nees ! - T caesp - Medit.Macar. - RR: 2,4 - H; Burano lake (Angiolini & al. 2002) Uccellina hills in the Maremma park (Arrigoni 2003) and area of Mt. Leoni (HS 3269)
- Vulpia myuros*** (L.) C.C. Gmel. ! - T caesp - Subcosmop. - C: 1,2,3,4,6,7,9 - H,N

CERATOPHYLLACEAE

Ceratophyllum demersum L. ! - I rad - Subcosmop. - C: 3,4,9 - D

PAPAVERACEAE

- Chelidonium majus*** L. ! - H scap - Holarct. - C: 4,6,7,8 - L,N
- Corydalis cava*** (L.) Schweigg. et Körte ! - G bulb - Europ. - R: 1,6,7 - L
- Corydalis pumila*** (Host) Rchb. ! - G bulb - Mid Europ. - R: 1,6,7 - L
- Fumaria barnolae*** Sennen et Pau ! - T scap - W Medit. - L: 2,4,9 - N
- Fumaria bastardii*** Boureau ! - T scap - Medit.Atl. - C: 2,3,4,5,9 - N
- Fumaria bicolor*** *Sommier* ex *Nicotra* ! - T scap - CW Medit. - R: 3,4 - C

- Fumaria capreolata* L. ! - T scap - Medit. - CC: 1,2,3,4,5 - N
Fumaria densiflora DC. - T scap - Medit.Atl. - RR: 4 - C; Maremma park near Collelungo (Arrigoni 2003)
Fumaria flabellata Gasp. ! - T scap - Medit. - C: 2,3,4 - N
Fumaria officinalis L. ! - T scap - Eur.Medit. - CC: 1,2,3,4,5,6,7,9 - N
Fumaria parviflora Lam. ! - T scap - Medit.Atl. - R: 2,3 - N
Fumaria petteri Rechb. ! - T scap - W Medit. - R: 4,9 - K,N
Fumaria vaillantii Loisel. ! - T scap - Medit. Ir.Tur. - RR: 7 - N; Poggio all'Olmo near podere Alteta (HS 3017)
Glaucium flavum Crantz ! - H scap - Medit.Atl. - L: 3,4,5 - B,K; mostly along the coast but also in the gravelly river beds of water courses, such as Cornia (HS 1809) and Trasubbie (HS 1148; Frignani & al. 2007b)
Papaver argemone L. - T scap - Teth.Eur. - R: 1,4 - N
Papaver dubium L. - T scap - Teth.Eur. - R: 1 - N; reserve Cornate-Fosini (Frignani & al. 2004) and Farma valley (Chiarucci & al. 1993)
Papaver hybridum L. ! - T scap - Teth.Eur. - C: 1,2,3,4,5,7 - N
Papaver rhoeas L. ! - T scap - Teth.Eur. - 1,2,3,4,5,6,7 - N
Papaver somniferum L. ! - T scap - occasionally naturalized - RR: 2 - N; near Sticciano scalo (HS 2829)

RANUNCULACEAE

- **Aconitum lycoctonum* L. - an old indication from Prata and Boccheggiano on Poggio di Montieri (Savi in Caruel 1860-64), not supported by herbarium records or later reports
Actaea spicata L. - G rhiz - Eurosib. - RR: 6 - L; beech woods of Mt. Amiata (Selvi 1996)
Adonis annua L. ! - T scap - Medit. - C: 1,2,3,4,5,7 - N
Anemone apennina L. ! - G rhiz - Apenn.Balk. - C: 1,2,4,5,6,7 - L
Anemone coronaria L. ! - G bulb - Medit. - RR: 2 - N; olive groves at Val Rotana near Montepescali (HS 1460)
Anemone hortensis L. ! - G rhiz - Medit. - C: 1,2,4,5,9 - K,N
Anemone nemorosa L. ! - G rhiz - Mid Europ. - C: 1,2,6,7 - L
Anemone ranunculoides L. ! - G rhiz - Europ. - R: 1,6,7 - L
**Anemone trifolia* L. - an old indication from Montieri (Savi in Caruel 1860-64), not supported by herbarium records or later reports
Aquilegia vulgaris L. ! - H scap - Europ. - C: 1,2,6,7 - L
Clematis flammula L. ! - P lian - Medit. - C: 1,2,3,4,5 - K
Clematis vitalba L. ! - P lian - Eur.Medit. - C: 1,2,4,5,6,7,8 - L
Consolida ajacis (L.) Schur ! - T scap - Eur.Medit. - R: 1,5,7 - N
Consolida regalis subsp. *paniculata* (Host) Soó - T scap - MidEur.Pont. - RR: 1 - N; indicated from the Farma valley (Chiarucci & al. 1993)
Consolida regalis Gray subsp. *regalis* ! - T scap - Europ. - C: 1,2,4,5 - N
Delphinium fissum Waldst. et Kit. ! - H scap - Apenn.Balk. - R: 7 - C,G; Mt. Labbro, Mt. Buceto, Mt. Aquilaia and Mt. Penna
Delphinium staphysagria L. ! - T scap - Medit - RR: 4 - N; an old indication from Montiano (Santi in Baroni 1897); currently only known from Ansedonia, where it is

abundant in the ruins of the ancient Roman town of Cosa (Ricasoli in Caruel 1860-64, Selvi 2002)

Eranthis hyemalis (L.) Salisb. ! - G rhiz - Eur.Medit. - R: 1,5,7 - L

Helleborus bocconei Ten. ! - G rhiz - Endem. (Apennines) - C: 1,2,5,6,7,8,9 - L

Helleborus foetidus L. ! - Ch suffr - Eur.OroMedit. - C: 1,2,5,6,7,8 - L

Hepatica nobilis Schreb. ! - G rhiz - Europ. - R: 6,7 - L

†*Myosurus minimus* L. - T scap - Subcosmop. - (2); collected only once near La Badiola in the lagoon of Castiglione d. Pescaia (coll. Savi 1832, FI!, PI!) and most probably disappeared

Nigella damascena L. ! - T scap - Teth.Eur. - C:1,2,3,4,5,7 - N

**Pulsatilla vulgaris* Mill. - an old indication from Mt. Labbro (Savi in Caruel 1860-64 sub *Anemone pulsatilla* L.), not supported by herbarium records or later reports

Ranunculus acris L. ! - H scap - Eurosib. - RR: 2 - G; wet meadows around the Accessa lake (HS 2528; Rizzotto 1982)

?*Ranunculus aquatilis* L. - I rad - Eur.Medit. - 9? old indications from the Accessa lake (Santi in Caruel 1865) and lagoon of Castiglione d. Pescaia (Santi in Caruel 1865; Tomei & Guazzi 1993), and more recently from the small lake Marruchetone near Capalbio (Guazzi & Tomei 1993) but here recently not confirmed (Lastrucci & al. 2007)

Ranunculus arvensis L. ! - T scap - Teth.Eur. - C: 1,2,4,5,6,7 - N

Ranunculus bulbosus subsp. *aleae* (Willk.) Rouy et Fouc. ! - H scap - Medit. - C: 1,2,3,4,5,6,7 - K,N

Ranunculus bulbosus L. subsp. *bulbosus* ! - H scap - Teth.Eur. - C: 1,3,4,5,7 - G,L

Ranunculus chius DC. ! - T scap - Medit. - R: 2,9 - N

Ranunculus ficaria L. subsp. *ficaria* ! - G bulb - Eurosib.Medit. - C: 1,2,5,6,7 - G,L

Ranunculus ficaria subsp. *ficariiformis* (F.W. Schultz) Rouy et Foucaud ! - H scap - Medit. - C: 2,3,4 - K,N

?*Ranunculus flammula* L. - H scap (I rad) - Europ. - 2? indicated from the Accessa lake (Santi in Caruel 1865; Tomei & al. 2001) but not confirmed

Ranunculus garganicus Ten. ! - H scap - MidEur.Medit. - C: 1,2,3,4,5,6,7,9 - H,K

Ranunculus lanuginosus L. ! - H scap - Mid Europ. - C:1,2,5,6,7,8 - L

**Ranunculus lingua* L. - an old and unreliable indication from the lagoon of Castiglione d. Pescaia (Savi in Caruel 1860-64)

Ranunculus monspeliacus L. ! - H scap - W Medit. - R:1,7,8 - G

Ranunculus muricatus L. ! - T scap - Paleotrop.Teth. - C: 2,3,4,5 - L

Ranunculus ophioglossifolius Vill. ! - T scap - Eur.Medit. - R: 2,9 - E

Ranunculus paludosus Poir. ! - H scap - Medit. - C: 1,2,3,4,5 - H,K

Ranunculus parviflorus L. ! - T scap - Medit.Atl. - C: 2,3,4 - H,K,N

Ranunculus peltatus subsp. *baudotii* (Godr.) C.D.K. Cook ! - I rad - Eur.Medit. - R: 2,4,5,9 - D,E; the distinction from subsp. *peltatus* is often uncertain due to the polymorphism in the shape of the leaves

Ranunculus platanifolius L. ! - H scap - OroEurop. - RR: 6 - M; extremely rare on the top of Mt. Amiata (Selvi 1997b)

Ranunculus repens L. ! - H rept - Bor.Teth. - C: 1,2,3,4,6,7,8 - G,N

Ranunculus sardous Crantz ! - T scap - Eur.Medit. - C: 2,3,4,5,7,9 - E,N

Ranunculus sceleratus L. ! - T scap - Holart.Paleotrop. - R: 1,2,3,4 - E

Ranunculus serpens subsp. *nemorosus* (DC.) G. López ! (= *R. tuberosus* Lapeyr.) - H scap
- Eurosib. - C: 1,2,4,6 - L

Ranunculus trichophyllus Chaix ! - I rad - Holart. - C: 1,2,3,4,9 - D

Ranunculus velutinus Ten. ! - H scap - Medit. - C: 1,2,3,5,7 - K,N

Thalictrum aquilegifolium L. ! - H scap - Europ. - C: 1,2,6,7,8 - L

Thalictrum flavum L. ! - H scap - Teth.Eur. - R: 2,4,7 - G

Thalictrum lucidum L. ! - H scap - Eur.Medit. - C: 2,3,5,6,7 - E,G

Thalictrum minus L. ! - H scap - Eurosib.Teth. - R: 1,7 - L

Thalictrum simplex L. ! - H scap - Eurosib. - RR: 7 - G ; Murceti near Castellazzara (HS 1811)

PLATANACEAE

Platanus x hispanica Münchh. ! - P scap - locally Naturalized - RR: 2 - L; banks of the river Ombrone below Campagnatico (HS 3027), and lower valley of the Ente river

BUXACEAE

Buxus sempervirens L. ! - P caesp - Europ. - RR: 1 - L; woods in the valley of Torrente Lanzo near Bagnolo, Civitella M.ma (HS 2607; Angiolini & De Dominicis 1997)

GROSSULARIACEAE

†*Ribes multiflorum* Kit. ex Roem et Schult. - NP -Apenn.Balk. - (6); collected at the Vivo springs (coll. *Arcangeli & Biondi* 1888, FI!; *Arcangeli* 1889) and disappeared after the destruction of its habitat caused by the works for capturing of the waters (Selvi 1996)

SAXIFRAGACEAE

Saxifraga bulbifera L. ! - H scap - Europ. - C: 1,2,5,6,7,9 - G,L

Saxifraga rotundifolia L. ! - H scap - Europ. - L: 6 - C

Saxifraga tridactylites L. ! - T scap - Teth.Eur. - C: 2,3,4,6,7,9 - G; the indication of *S. ascendens* L. from Mt. Labbro (Maccherini & al. 1994) is referred here

CRASSULACEAE

Sedum acre L. ! - Ch succ - Bor.Medit. - C: 1,2,5,6,7,8 - G

Sedum album L. ! - Ch succ - Teth.Eur. - C: 1,5,6,7,8 - C,G

Sedum alpestre Vill. ! - Ch succ - OroEurop. - RR: 6 - C; top of Mt. Amiata (HS 1961; Selvi 1996)

Sedum caespitosum (Cav.) DC. ! - T scap - Teth.Eur. - R: 1,5,7 - G

Sedum cepaea L. ! - T scap - Eur.Medit. - C: 1,2,6,7,8

Sedum dasyphyllum L. ! - Ch succ - Teth.Eur. - R: 4,7 - C

Sedum hispanicum L. ! - T scap - Eur.Medit. - RR: 7 - C; upper valley of the river Albegna at Pescinello (HS 2293) and on the travertines around Saturnia

Sedum rubens L. ! - T scap - Eur.Medit. - C: 1,2,5,7 - C,G,H

Sedum rupestre L. ! - Ch succ -Atl. Mid Europ. - C: 1,4,5,6,7,8 - C

Sedum sediforme (Jacq.) Pau ! - Ch succ -Medit. - L: 4 - C

Sedum sexangulare L. ! - Ch succ - Europ. - R: 1,5,7,8 - G

Sedum stellatum L. ! [= *Phedimus stellatus* (L.) Raf.] - T scap -Medit. - R: 2,4,8 - G

Sedum telephium subsp. ***maximum*** (L.) Schinz et Thell. ! [= *Hylotelephium maximum* (L.) Holub] - H scap - Eur.OroMedit. - R: 1,6 - C; top of Mt. Amiata (Selvi 1996), Farma valley (Chiarucci & al. 1993), and upper Albegna valley on limestone rocks of Pescinello (HS 3335)

**Sempervivum tectorum* L. - indicated by error from Cornate di Gerfalco (Frignani & al. 2004)

Tillaea muscosa L. ! - T scap - Medit.Atl. - C: 3,4,5,8,9 - H

Umbilicus horizontalis DC. - G bulb -Medit. - RR: 2,9 - C; collected at Badiola near Castiglione d. Pescaia (coll. *Caruel* 1856, PI!) and Capalbiaccio (coll. *Sommier* 1892, FI!; *Sommier* 1892b, Baroni 1899)

Umbilicus rupestris (Salisb.) Dandy ! - G bulb - Medit.Atl. - CC: 1,2,3,4,5,6,8 - C

HALORAGACEAE

?***Myriophyllum spicatum*** L. - I rad - Subcosmop. - 3?; indicated from the lagoon of Castiglione d. Pescaia (Santi in *Caruel* 1862, Tomei & Guazzi 1993), but not recently confirmed

Myriophyllum alterniflorum DC. ! - I rad - Bor.Medit. - RR: 9 - D; near Capalbio at the small lake of Marruchetone (HS 2398) and Piscina degli Olmi (HS 2595; *Lastrucci* & al. 2007)

Myriophyllum verticillatum L. - I rad - Holarct. - RR: 4,9 - D; Burano and Acquato lakes (coll. *Sforzi* & *Senesi* 2004, FI!; *Angiolini* & al. 2002), and Maremma park (*Arrigoni* 2003)

VITACEAE

Vitis vinifera subsp. ***sylvestris*** (C.C. Gmel.) Hegi ! - P lian -Medit. - C:1,2,3,4,5,8,9 - L

ZYGOPHYLLACEAE

Tribulus terrestris L. ! - T rept - Cosmop. - C: 2,3,4 - N

FABACEAE

Anagyris foetida L. - P caesp - Teth. - RR: 3,5 - L; an old indication from the surroundings of Magliano in the Albegna valley (Santi & Savi in *Caruel* 1860-64), where it was collected by *Sommier* (1902, FI!); also near Castiglione d. Pescaia (coll. *Cavanna* 1889, FI!) and, perhaps, Follonica (*Pignatti* 1982)

Anthyllis barba-jovis L. ! - P caesp - W Medit. - L: 3,4 - B

Anthyllis vulneraria subsp. ***rubriflora*** (DC.) Arcang. ! - H scap - Medit. - C: 1,2,3,4,5,6,7,8,9 - G,K

Anthyllis vulneraria subsp. ***vulnerarioides*** (All.) Arcang. ! - H scap - Medit. - R: 1,7 - G

Argyrolobium zanonii (Turra) P.W. Ball ! - Ch suffr - CW Medit. - R: 2,7 - G; abundant on the outcrops of "calcare cavernoso" in the Merse valley near Casenovole (HS 2894); also near Seggiano (HS 1973) and Batignano (HS 0849)

Astragalus glycyphyllos L. ! - H rept - Eurosib. - C:1,5,6,7 - L

Astragalus hamosus L. ! - T scap - Teth.Eur. - R: 4,5,7,9 - G,N

Astragalus monspessulanus L. ! - H ros - MidEur.Medit. - C: 1,2,4,5,6,7,9 - G

Astragalus muelleri Steud. et Hochst. ! - H scap - Apenn.Balk. - RR: 2,7 - C; rocky limestone and clayey slopes on Poggio di Moscona near Roselle (Selvi & Fiorini 1994) and Mt. Amiata in the area of Seggiano (HS 1949, 3195)

- Astragalus sesameus* L. - T scap - Medit. - RR: 9 - G; Fiora valley, scrub in the river bed between S. Martino sul Fiora and Sovana
- Bituminaria bituminosa* (L.) C.H. Stirt ! - H scap - Teth. - L: 2,3,4 - B,N
- Calicotome villosa* (Poir.) Link ! - P caesp - Medit. - C: 2,3,4 - K
- Cercis siliquastrum* L. ! - P scap - CE Medit. - L: 4,5,9 - L; river Albegna valley and especially abundant on the travertine soil near Saturnia
- Colutea arborescens* L. ! - P caesp - Eur.Medit. - R: 1,4,7,8 - L
- Coronilla minima* L. ! - Ch suffr - CW Medit. Mid Europ. - C: 1,2,7,9 - G
- Coronilla scorpioides* (L.) W.D.J. Koch ! - T scap - Eur.Medit. - C: 1,2,3,4,5,7 - G,H
- Coronilla valentina* L. ! - NP - W Medit. - L: 3,4 - B
- Securigera varia* (L.) Lassen ! - H scap - Eur.Medit. - RR: 2 - G; between Paganico and Sasso d'Ombrone (HS 3036)
- Cytisophyllum sessilifolium* (L.) O. Lang ! - P caesp - W Medit. - C: 1,5,6,9 - L
- Cytisus decumbens* (Durande) Spach ! - Ch suffr - OroMedit. - RR: 1,9 - G; rare on the serpentine outcrops near Roccatederighi (Selvi 2001) and in the Merse valley near Casenovole (HS 2979); also in the surroundings of Capalbio on the calcareous hills around lago Acquato (coll. *Sommier* 1892 sub *Genista procumbens* W. et K., FI!; *Sommier* 1892a)
- Cytisus hirsutus* L. ! - P caesp - Ir.Tur. Europ. - L: 1,2,6 - L
- Cytisus scoparius* (L.) Link ! - P caesp - Atl. Mid Europ. - C: 1,2,4,5,6,7,8 - L
- Cytisus villosus* Pourr. ! - P caesp - Medit. - C: 1,2,3,4,9 - K
- Dorycnium herbaceum* Vill. ! - H scap - CW Medit.Atl. - C: 1,2,5,7,9 - G ; the indication of *D. pentaphyllum* Scop. from Cornate di Gerfalco (Frignani & al. 2004) is to be referred here
- Dorycnium hirsutum* (L.) Ser. ! - Ch suffr - Medit. - C: 1,2,3,4,5,6,7,8,9 - K
- Dorycnium rectum* (L.) Ser. ! - H scap - Medit.Pont. - R: 1,2,3,4 - E
- Galega officinalis* L. ! - H scap - Teth.Eur. - C: 1,2,3,5,6,8 - E,N
- **Genista aspalathoides* Lam. - an old, unreliable indication from Pereta (Savi in Caruel 1860-64)
- Genista germanica* L. ! - Ch suffr - Mid Europ. - C: 1,2,6 - L
- Genista januensis* Viv. ! - Ch suffr - Mid Europ. - R: 1,5 - G
- Genista pilosa* L. ! - Ch suffr - Europ. - L: 1,2,6 - G,L
- Genista sagittalis* L. ! - Ch suffr - Europ. - RR: 1 - L; woods near Prata (HS 0857), Farma valley (Chiarucci & al., 1993) and perhaps Montieri (Santi in Caruel 1860-64)
- Genista tinctoria* L. ! - Ch suffr - Europ. - C: 1,2,4 - L
- Glycyrrhiza glabra* L. ! - G rhiz - Medit. Ir.Tur. - L: 3 - B,N; very abundant along the sandy coast of Castiglione d. Pescaia, and the Bruna river; flowering is very sporadic
- Hedysarum coronarium* L. ! - H scap - Medit. - C: 1,2,3,5,7 - G
- Hedysarum glomeratum* F.Dietr. ! [= *H. spinosissimum* subsp. *capitatum* (Rouy) Asch. et Graebn.] - T scap - Medit. - RR: 1 - B; very rare on clayey soils in the Cornia valley (HS 2373, 2939)
- Hippocrepis ciliata* Willd. ! - T scap - Medit. - R: 2,4 - H
- Hippocrepis comosa* L. ! - H caesp - Eur.Medit. - C: 1,2,5,7,8 - G
- Hippocrepis emerus* subsp. *emeroides* (Boiss. et Spruner) Greuter et Burdet ! [= *Emerus majus* subsp. *emeroides* (Boiss. et Spruner) Soldano et F. Conti] - NP - Medit. - R: 1,4,7 - C

- Hippocrepis emerus* (L.) Lassen subsp. **emerus** ! (= *Emerus majus* Mill. subsp. *emerus*) - NP - Eur.Medit. - C: 1,2,5,6,7,8 - L
- Hippocrepis unisiliquosa* L. ! (= *H. biflora* Spreng.) - T scap - Medit. - C: 2,3,4,5,9 - H
- Hymenocarpus circinnatus* (L.) Savi ! - H scap - Medit. - R: 2,5,9 - H
- Laburnum anagyroides* Medik. ! - P caesp - Mid Europ. - R: 1,2,6,8 - L
- Lathyrus annuus* L. ! - T scap - Medit. - C: 2,3,7,9 - H,N
- Lathyrus aphaca* L. ! - T scap - Teth.Eur. - C: 1,2,4,5,6,7,8,9 - N
- Lathyrus cicera* L. ! - T scap - Teth. - C: 2,3,4,5,7,9 - H
- Lathyrus clymenum* L. ! - T scap - Medit. - C: 1,2,3,4,5,8,9 - H,K
- Lathyrus gorgoni* Parl. ! - T scap - SE Medit. - RR: 9 - N; Fiora valley near Poggio Rocco (HS 2390, 2391; Selvi 2002)
- **Lathyrus grandiflorus* Sm. - an erroneous indication from Poggio all'Olmo (Maccherini & al. 2001)
- **Lathyrus heterophyllus* L. - an erroneous indication from Poggio all'Olmo (Maccherini & al. 2001)
- Lathyrus hirsutus* L. ! - T scap - Medit. Ir.Tur. - C: 1,2,3,7 - N
- Lathyrus incospicuus* L. ! - T scap - Medit. Ir.Tur. - C: 1,2,7 - G,H
- Lathyrus latifolius* L. ! - H scand - Eur.Medit. - CC: 1,2,4,5,7,8,9 - G,L,N
- Lathyrus linifolius* (Reichard) Bässler ! - G rhiz - Atl. Mid Europ. - C: 1,2,6,7,8 - L
- Lathyrus niger* (L.) Bernh. ! - G rhiz - Eur.OroMedit. - C: 1,2,4,6,8 - L
- Lathyrus nissolia* L. ! - T scap - Eur.Medit. - R: 1,2,4,7 - H
- Lathyrus ochrus* (L.) DC. ! - H scap - Medit. - C: 1,3,4,5,8 - N
- Lathyrus pannonicus* (Jacq.) Garcke subsp. **varius** (Hill) P.W. Ball ! - G rhiz - Apenn.Balk. - R: 7 - G; Mt. Amiata and upper Fiora and Albegna valleys (HS 0885, 0886, 2252; Selvi 1996)
- Lathyrus pratensis* L. ! - H scap - Holart.Paleotrop. - C: 1,2,4,6,7 - G
- Lathyrus setifolius* L. ! - T scap - Medit.Pont. - R: 2 - H; rocky limestone outcrops on Poggio di Moscona (HS 0900, 2849), Mt. Calvo near Gavorrano (HS 2520) and Bagno Santo near Saturnia (HS 3120)
- Lathyrus sphaericus* Retz. ! - T scap - Eur.Medit. - C: 1,2,4,6,7 - H
- Lathyrus sylvestris* L. ! - H scand - Europ. - C: 1,2,3,5,6,7,8 - L
- Lathyrus tuberosus* L. - an old and unreliable indication from the area of Mt. Labbro (Savi in Caruel 1860-64)
- Lathyrus venetus* (Mill.) Wohlf. ! - H scap - Mid Europ. - C: 1,2,5,6,7,8 - L
- Lathyrus vernus* (L.) Bernh. ! - G rhiz - Eurosib. - R: 6,7 - L
- Lens ervoides* (Brign.) Grande ! - T scap - Medit. - R: 5,7,8,9 - C
- Lotus angustissimus* L. ! - T scap - Medit. - C: 1,2,3,4,5,9 - G
- Lotus corniculatus* L. subsp. **corniculatus** ! - H scap - Holart.Paleotrop. - C: 1,2,3,5,6,7,8 - G
- Lotus corniculatus* subsp. **preslii** (Ten.) P. Fourn. - H scap - Medit. - RR: 3 - B; coastal plain of the Maremma park (Arrigoni 2003)
- Lotus cytisoides* L. ! - H scap - Medit. - RR: 4 - B; sea cliffs of Talamone (HS 2991)
- Lotus edulis* L. ! - T scap - Medit. - C: 2,3,4,9 - H
- Lotus hispidus* DC. ! - T scap - W Medit. - R: 2,3 - H
- Lotus ornithopodioides* L. ! - T scap - Medit. - C: 2,4,5,7,9 - H
- Lotus parviflorus* Desf. - T scap - Medit. - R: 4,6 - H

- Lotus pedunculatus* Cav. ! - H scap - Teth.Eur. - R: 2,3,4,7 - G
- Lotus tenuis* Waldst. et Kit. ! - H scap - Eurosib.Medit. - C: 2,3,4,5,7 - G
- Lupinus albus* L. ! - T scap - locally escaped from culture - R: 9 - N
- Lupinus angustifolius* L. ! - T scap - Medit. - R: 2,4,6 - H
- Lupinus graecus* Boiss. et Spruner ! - T scap - Medit. - RR: 1 - G; Farma valley near La Pietra (Chiarucci & al. 1993) and near Roccatederighi on jasper outcrops of Colle della Miniera (HS 2525; Selvi 2002)
- Lupinus micranthus* Guss. ! - T scap - Medit. - R: 2,3,4 - H
- Medicago arabica* (L.) Huds. ! - T scap - Medit. - C: 1,2,3,4,5,6,8 - H,N
- Medicago falcata* L. ! - H scap - Eurosib.Medit. - C: 1,2,7 - G
- ?*Medicago intertexta* (L.) Mill. - T scap - Medit. - 5? - an old indication from Saturnia (Santi in Caruel 1860-64 sub *M. echinus* Dec.); to be confirmed
- Medicago littoralis* Loisel. ! - T scap - Medit. - L: 3,4 - B
- Medicago lupulina* L. ! - T scap - Holart.Paleotrop. - CC: 1,2,3,4,5,6,7 - G,H,N
- Medicago marina* L. ! - Ch rept - Medit.Atl. - L: 3,4 - B
- Medicago minima* (L.) L. ! - T scap - Holart.Paleotrop. - C: 1,2,3,4,5,6,7,8,9 - G,H
- Medicago murex* Willd. ! - T scap - Medit. - R: 2,9 - H
- Medicago orbicularis* (L.) Bartal. ! - T scap - Teth.Eur. - C: 2,4,5,6,7 - H
- Medicago polymorpha* L. ! - T scap - Bor.Teth. - C: 3,4,5,8 - G,N
- Medicago praecox* DC. ! - T scap - N Medit. - R: 2,3,4 - H
- Medicago prostrata* Jacq. ! - H scap - Eur. CE Medit. - RR: 2 - H; outcrops of "calcare cavernoso" near Sticciano (HS 0931, 0933) and Poggio di Moscona (HS 2632, Selvi & Fiorini 1994)
- Medicago rigidula* (L.) All. ! - T scap - Medit. - C: 2,3,4,7 - H
- Medicago sativa* L. ! - H scap - Eurosib.Medit. - CC: 1,2,3,4,5,7 - N; mostly found as escaped from culture
- Medicago truncatula* Gaertn. ! - T scap - Medit. - R: 2 - H
- Melilotus albus* Medik. ! - T scap - Subcosmop. - C: 1,2,4,5,6,8 - G,N
- Melilotus altissimus* Thuill. ! - G rhiz - Bor. - C: 1,2,3,5,7 - G,N
- ?*Melilotus dentatus* (Waldst. et Kit.) Desf. - T scap - 3? indicated from the coastal plain of the Maremma park (Arrigoni 2003) based on a specimen devoid of fruits and root, that may belong to *M. segetalis*; *M. dentatus* is not known from Tuscany, at least as native
- Melilotus elegans* Ser. ! - T scap - Medit. - L: 3,4 - B
- Melilotus indicus* (L.) All. ! - T scap - Teth. - R: 2,3,4 - N
- Melilotus italicus* (L.) Lam. - T scap - Medit. - R: 3,4 - N
- Melilotus neapolitanus* Ten. ! - T scap - Medit. - C: 1,3,4,5,7 - C
- Melilotus officinalis* (L.) Pall. ! - H bienn - Eurosib.Teth. - C: 1,5,6,7 - G
- Melilotus segetalis* (Brot.) Ser. ! - T scap - Medit. - R: 3,4 - B
- Melilotus sulcatus* Desf. ! - T scap - Medit. - C: 2,3,4,5,7,8 - G,N
- Onobrychis arenaria* (Kit.) DC. ! - H scap - Eurosib. - L: 7 - G; rare in the dry, steppe meadows on clayey-calcareous soil in the area of Seggiano, on the northern slopes of Mt. Amiata (HS 3165); this appears to be the first record of this species from Tuscany
- Onobrychis caput-galli* (L.) Lam. ! - T scap - Medit. - C: 1,2,3,4,5,7 - H
- Onobrychis viciifolia* Scop. ! - H scap - Eur.Medit. - C: 1,3,5,6,7 - G

- Ononis ornithopodioides* L. ! - T scap - Medit. - L: 2,4 - H
- ²*Ononis minutissima* L. - Ch suffr - CW Medit. - ??,8? old indications from Pitigliano “al Tosteto” (Santi in Caruel 1860-64) and Mt. Amiata (Pignatti 1982); no herbarium records have been examined and recent observations are lacking, so that it needs confirmation
- Ononis pusilla* L. ! - H scap - Eur.Medit. - C: 1,2,4,5 - G
- Ononis reclinata* L. ! - T scap - Teth. - C: 1,2,3,4 - H
- Ononis spinosa* subsp. *antiquorum* (L.) Arcang. ! - Ch suffr - Teth. - C: 2,3,4,5,6,7 - G
- Ononis spinosa* L. subsp. *spinosa* - Ch suffr - Atl. Mid Europ. - R: 1,7 - G
- Ononis variegata* L. ! - T scap - Medit. - L: 3,4 - B
- Ononis viscosa* subsp. *breviflora* (DC.) Nyman ! - T scap - CW Medit. - R: 1,3,5 - H
- Ornithopus compressus* L. ! - T scap - Eur.Medit. - C: 2,3,4,5,6,7 - H
- Ornithopus perpusillus* L. ! - T scap - Medit.Atl. - R: 6,7 - H
- Ornithopus pinnatus* (Mill.) Druce ! - T scap - Medit.Atl. - R: 2,3 - H
- Pisum sativum* subsp. *biflorum* (Raf.) Soldano ! - T scap - Teth. Pont. - C: 2,3,4,5,6, - N
- Robinia pseudoacacia* L. - P scap - diffusely Naturalized - CC: 1,2,3,4,5,6,7,8,9 - N
- Scorpiurus muricatus* subsp. *subvillous* (L.) Thell. ! - T scap - Medit. - C: 2,3,4,5 - H
- Spartium junceum* L. - P caesp - Medit. - C: 1,2,3,4,5,7,8 - L
- Teline monspessulana* (L.) K. Koch ! - P caesp - Medit.Macar. - L: 2,3,4 - R
- Tetragonolobus maritimus* (L.) Roth - H scap - Eur.Medit. - R: 3,4 - B
- Trifolium angustifolium* L. ! - T scap - Teth.Eur. - CC: 1,2,3,4,5,6,7,8,9 - H,K
- Trifolium arvense* L. ! - T scap - Eurosib.Teth. - C: 1,2,3,4,5,6,7,8,9 - H,G
- Trifolium aureum* Pollich - T scap - Eurosib. - RR: 6 - G; Mt. Amiata (coll. *Sommier* 1873, FI!)
- Trifolium bocconeii* Savi ! - T scap - Medit.Atl. - RR: 2 - K; area of Mt. Leoni (Selvi 1998)
- Trifolium campestre* Schreb. ! - T scap - Teth.Eur. - C: 1,2,3,4,5,6,7,8,9 - G,H
- Trifolium cherleri* L. ! - T scap - Medit. - C: 1,2,3,4,5,8,9 - H
- Trifolium dubium* Sibth. ! - H scap - Eur.Medit. - R: 1,2 - G
- Trifolium echinatum* M. Bieb. ! - T scap - Medit.Pont. - R: 2,3,5,9 - G
- Trifolium fragiferum* L. ! - H rept - Teth.Eur. - R: 2,3,9 - G
- Trifolium glomeratum* L. ! - T scap - Eur.Medit. - C: 2,3,4,6,8 - G,H
- Trifolium hybridum* subsp. *elegans* (Savi) Asch. et Graebn. ! - H scap - Eur.Medit. - R: 1,2,3 - G
- Trifolium incarnatum* L. subsp. *incarnatum* - T scap - Medit. - R: 1,5,7 - N
- Trifolium incarnatum* subsp. *molinieri* (Hornem.) Ces. ! - H bienn - Eur.Medit. - C: 2,6,7 - G,N
- Trifolium lappaceum* L. ! - T scap - Medit. Ir.Tur. - C: 2,3,4,5 - H
- Trifolium leucanthum* M. Bieb. ! - T scap - Medit. Ir.Tur. - R: 1,7 - G
- Trifolium ligusticum* Loisel. ! - T scap - Medit.Macar. - R: 1,2,3 - H
- Trifolium medium* L. ! - G rhiz - Eurosib. - R: 1,6,7 - G
- Trifolium michelianum* Savi ! - T scap - Eur.Medit. - RR: 5,9 - G; Torrente Trasubbie (HS 2226, 2585; Frignani & al. 2007b) and area of Capalbio (coll. *Sommier* 1892, FI !)
- Trifolium micranthum* Viv. ! - T scap - Eur.Medit. - R: 1,2,6 - H
- Trifolium nigrescens* Viv. ! - T scap - Medit. - C: 1,2,3,4 - H
- Trifolium ochroleucon* Huds. ! - H caesp - Eur.OroMedit. - C: 1,2,5,6,7 - G,L

- Trifolium pallidum* Waldst. et Kit. ! - T scap - Eur.Medit. - C: 2,3,4.
Trifolium pratense L. ! - H scap - Bor.Teth. - CC: 1,2,3,4,5,6,7,8,9 - G,N
Trifolium repens subsp. *prostratum* Nyman - H rept - Bor.Teth. - R: 1,7 - G
Trifolium repens L. subsp. *repens* ! - H rept - Bor.Teth. - CC: 1,2,3,4,5,6,7 - G,N
Trifolium resupinatum L. ! - T rept - Teth. - C: 1,2,3,4,5,7 - G
Trifolium rubens L. ! - H scap - Europ. - R: 1,2,5,6,7,8 - G
Trifolium scabrum L. ! - T rept - Eur.Medit. - C: 2,3,4,5,7,8,9 - H
²*Trifolium spumosum* L. - T scap - Medit. Ir.Tur. - 3? an old indication from the area between Grosseto and Castiglione d. Pescaia (Savi in Caruel 1862), also reported in Pignatti (1982); no herbarium material could be examined and later observations are lacking
Trifolium squamosum L. ! - T scap - Teth. Atl. - L: 3,4 - B
Trifolium squarrosom L. ! - T scap - Teth.Eur. - C: 2,3,5 - G
Trifolium stellatum L. ! - T scap - Medit.Pont. - CC: 1,2,3,4,5,6,7,8,9 - H,K
Trifolium striatum L. subsp. *striatum* ! - T scap - Eur.Medit. - C: 2,5,6,7 - H,K
Trifolium striatum subsp. *tenuiflorum* (Ten.) Arcang. ! - T scap - Medit. - C: 2,7,8 - H
Trifolium strictum L. ! - T scap - Eur.Medit. - R: 6,7,8 - H
Trifolium subterraneum L. ! - T rept - Eur.Medit. - C: 1,2,4,5,6 - H
Trifolium suffocatum L. - T scap - Teth. Atl. - R: 9 - H; dry hills in the area of Capalbio (coll. Sommier 1892, FI!)
Trifolium tomentosum L. ! - T rept - Medit. Ir.Tur. - R: 3,4,5,9 - H
Trifolium vesiculosum Savi ! - T scap - Eur.Medit. - R: 2,3,4,8 - G
Trigonella esculenta Willd. ! - T scap - Medit. - C: 2,3,4,7 - H,N
Trigonella gladiata M. Bieb. ! - T scap - Medit. - R: 3,4,7 - B,G
Tripodion tetraphyllum (L.) Fourr. ! - T scap - Medit. - R: 2,4 - H; dry calcareous soil on Poggio di Moscona (Selvi & Fiorini 1994) and Uccellina hills (Arrigoni 2003)
Ulex europaeus L. ! - P caesp - Atl. It.Prov. - RR: 1 - L; Colle della Miniera near Roccauderighi (HS 1049)
Vicia altissima Desf. ! - H scap - CW Medit. - R: 2,3,9 - K; coastal macchia at the mouth of Alma river and Punta Ala (HS 2559, 2950), Mt. Leoni in several places (Selvi 1998) and area of Capalbio (Sommier 1892b)
Vicia benghalensis L. ! - T scap - Medit. - C: 1,2,4,9 - H,N
Vicia bithynica (L.) L. ! - T scap - Eur.Medit. - C: 1,2,3,4,5,6,7,9 - H,N
Vicia cassubica L. ! - H scap - Europ. - RR: 6 - G; Mt. Amiata (HS 1011; Selvi 1996)
Vicia cracca L. - H scap - Holarct. - C: 1,5,6,7 - RR: 1 - N; Farma valley (coll. Lusini 1969, SI!), Cornate di Gerfalco (coll. *De Dominicis* 1964 and *Frignani* 2000, SI!); most of the records of this species from Maremma are to be referred to other taxa (mostly *V. villosa* subsp. *varia* and *V. ochroleuca*)
Vicia disperma DC. ! - T scap - CW Medit. - R: 2,3 - H
Vicia grandiflora Scop. ! - H scap - Teth.Eur. - C: 1,2,6,7,8 - L
Vicia hirsuta (L.) Gray ! - T scap - Teth.Eur. - C: 2,3,4,5,6,7,8 - L,N
Vicia hybrida L. ! - T scap - Teth. Pont. - C: 1,2,3,4,5 - N
Vicia incana Gouan ! - H scap - Eur.Medit. - L: 1,6 - L,N
Vicia lathyroides L. ! - T scap - Eur.Medit. - R: 2,5,6 - H
Vicia loiseleurii (M.Bieb.) Litv. - T scap - Medit. - RR: 7 - L; collected near

- Montevitozzo (HS 2387), but possibly more widely distributed than presently known; apparently this is the first record from Tuscany
- Vicia lutea*** L. ! - T scap - Medit. - C: 2,3,4,5 - N
- Vicia narbonensis*** L. subsp. *narbonensis* - T scap - Medit. - R: 3,4,9 - N
- Vicia narbonensis*** subsp. *serratifolia* (Jacq.) Ces. - T scap - Medit. - R: 2,3,9 - N; area of Capalbio (coll. *Sommier* 1892, FI!), Maremma park (coll. *Arrigoni* 1977, FI!) and near Sticciano (HS 3132)
- Vicia ochroleuca*** Ten. ! - H scap - W Medit. - C: 1,2,3,6,7 - K
- Vicia parviflora*** Cav. ! - T scap - Eur.Medit. - C: 1,2,3,4,5 - G,L
- Vicia peregrina*** L. ! - T scap - Eur.Medit. - R: 4,5,7 - G
- Vicia pseudocracca*** Bertol. ! - T scap - CW Medit. - R: 2,3,4 - B,K
- Vicia pubescens*** (DC.) Link ! - T scap - Medit. - R: 2,9 - N
- Vicia sativa*** subsp. *macrocarpa* (Moris) Arcang. - T scap - Medit. - RR: 1 - N; indicated only from the Farma valley (Chiarucci & al. 1993)
- Vicia sativa*** subsp. *nigra* (L.) Ehrh. ! - T scap - Teth. - CC: 1,2,3,4,5,6,7,9 - H,N
- Vicia sativa*** L. subsp. *sativa* ! - T scap - Naturalized - CC: 1,2,3,4,5,6,7,8,9 - N
- Vicia sepium*** L. ! - H scap - Eurosib. - C: 1,5,6,7 - L
- Vicia sparsiflora*** Ten. ! - H scap - CE Medit. - RR: 2,9 - L; rare in oak woodlands near Capalbio (*Sommier* 1892a sub *V. pilisiensis* Asch. et Janka, FI!; HS 1817) and Roccastrada at Pian di Muro, Mt. Leoni area (HS 2519; Selvi 2005)
- Vicia tetrasperma*** (L.) Schreb. ! - T scap - Teth.Eur. - C: 2,4,5,6 - H,N
- Vicia villosa*** subsp. *ambigua* (Guss.) Kerguélen ! - T scap - Endem. (Tyrrhenian ?) - RR: 3,7 - N; south edge of Diaccia Botrona (HS 1040), Poggio all'Olmo and Mt. Labbro (coll. *Maccherini* & al. 1998, SI!). It differs from the other taxa of the *V. villosa* group by the more robust habit, larger, ovate leaflets and larger flowers with more intensely coloured corollas; in this characters it matches the original material of *V. ambigua* Guss. from Sicily and Campania (FI!). It was considered as a taxonomic synonym of *V. pseudocracca* Bertol. (Kerguélen M. in *Lejeunia*: 120: 183, 1987; *Conti* & al. 2005, *Jeanmonod* & *Gamisans* 2007), an interpretation that is in contrast with *Fiori* (1925) and *Pignatti* (1982), who considered *V. ambigua* and *V. pseudocracca* as distinct species. Indeed, *V. pseudocracca* differs clearly from *V. ambigua* by the narrowly lanceolate and sparser leaflets, acute at the apex, and by the more spaced flowers with less intensely coloured corollas with a darker tip. It grows in coastal sandy habitats, while *V. ambigua* is found in herbaceous communities also in more internal areas. The records from Diaccia Botrona, Poggio all'Olmo and Mt. Labbro show the presence of the latter taxon in Tuscany, for the first time.
- Vicia villosa*** subsp. *varia* (Host) Corb. ! - T scap - Teth.Eur. - CC: 1,2,3,5,7,8,9 - K,L; the records of *V. tenuifolia* Roth (*Selvi* 1998; *Maccherini* & al. 1994) are to be referred here
- Vicia villosa*** Roth subsp. *villosa* - T scap - Teth.Eur. - RR: 1 - N; only known from the Farma valley (coll. *Chiarucci* 1988, SI!); records from other localities are to be referred to other taxa

POLYGALACEAE

- Polygala flavescens*** DC. ! - H scap - Endem. (Ligurian-Tyrrhenian area and Apennines) - C: 1,2,3,4,5,6,7,8,9 - G

**Polygala major* Jacq. - old and unreliable records from Cala di Forno and Ansidonia (Savi in Caruel 1860-64)

Polygala monspeliaca L. ! - T scap - Teth. Pont. - C: 2,3,4,5,9 - H

Polygala vulgaris L. ! - H scap - Eur.Medit. - C: 1,2,6,7 - G

ROSACEAE

Agrimonia eupatoria L. ! - H scap - Teth.Eur. - C: 1,2,6,7,8 - L

Aphanes arvensis L. ! - T scap - Subcosmop. - C: 1,3,4,5,6,7,9 - G

Aphanes australis Rydb. ! - T scap - CW Medit. Europ. - R: 1,2,5 - H; localities given in Selvi (2000 sub *A. microcarpa* (Boiss. & Reut.) Rothm.)

Aremonia agrimonioides (L.) DC. - H ros - Europ. - R: 6,7 - L

Crataegus laevigata (Poir.) DC. ! - P caesp - Europ. - C: 1,6,7,8 - L

Crataegus monogyna Jacq. ! - P caesp - Eur.Medit. - C: 1,2,4,5,6,7,8,9 - L

Filipendula vulgaris Moench ! - H scap - Eurasiatica - C: 1,2,4,5,7 - L

Fragaria moschata Duchesne ! - H rept - Mid Europ. - R: 6 - L

Fragaria vesca L. - H rept - Eurosib. OroMedit. - R: 1,6,7 - L

Fragaria viridis Duchesne ! - H rept - Europ. - R: 1,2,5,7 - L

Geum urbanum L. ! - H scap - Eurosib.Teth. - C: 1,2,5,6,7 - G,N

Malus sylvestris (L.) Mill. ! - P scap - Eur.Medit. - C: 1,2,3,4,5,6,7 - L

Mespilus germanica L. ! - P caesp - Eur. Pont. - L: 1,9 - L

Potentilla argentea L. ! - H scap - Eurosib. - R: 6 - G; Mt. Amiata around S. Fiora (coll. Biondi 1888, FI!) and Castel del Piano (coll. Fiori 1919, FI!; Selvi 1996), and Farma valley on acid meadows (HS 3265)

Potentilla detommassii Ten. ! - H scap - Medit. Balk. - R: 1,4,7 - G

Potentilla erecta (L.) Rausch. ! - H scap - Eurosib. - C: 1,2,4,6,7 - G

Potentilla hirta L. ! - H scap - Eur.Medit. - C: 1,2,4,7 - G

?*Potentilla inclinata* Vill. - H scap - Bor. - 6?; the indication of this species from Mt. Amiata near Vivo d'Orcia (Selvi 1996) needs confirmation on more complete collections

Potentilla micrantha Ramond ex DC. ! - H ros - Eur.Medit. - C: 1,2,6,7 - L

Potentilla recta L. ! - H scap - Bor.Teth. - C: 2,4,5,6 - G,I

Potentilla reptans L. ! - H ros - Bor.Teth. - C: 1,2,3,4,5,7 - N

Prunus avium L. ! - P scap - Eur.OroMedit. - R: 1,6,7,8 - L

Prunus mahaleb L. ! - P caesp - Eurosib. OroMedit. - 7: RR - L; calcareous cliffs and scrub on Mt. Civitella and Mt. Penna near Castellazzara (HS 1557; Selvi 2002, Frignani & al. 2008)

Prunus spinosa L. ! - P caesp - Eur.Medit. - CC: 1,2,3,4,5,6,7,8,9 - L

Pyracantha coccinea M.Roem. - P caesp - Medit. - C: 1,2,4,5,8 - L

Pyrus spinosa Forssk. ! - P caesp - Medit. - CC: 1,2,3,4,5,6,7,9 - K

Pyrus communis L. (= *P. pyraister* Burgsd.) - P scap - Eur.Medit. - C: 1,2,4,5,6,7,8 - L; we believe this taxon to be native in Tuscany, at least in the examined area

Rosa agrestis Savi ! - NP - Eur.Medit. - C: 1,2,5,7 - L

Rosa arvensis Huds. ! - NP - Europ. - C: 1,5,6,7 - L

Rosa balsamica Besser ! - NP - Europ. - RR: 7 - L; Mt. Amiata near Altore, Seggiano (HS 3226)

Rosa canina L. ! - NP - Teth.Eur. - C: 2,4,5,6,7 - L; records of *R. nitidula* Besser and *R. squarrosa* (A. Rau) Boreau, both reported from Maremma and sometimes considered

specifically distinct, are here included in the circumscription of *R. canina* s.str., following Aeschmann & al. (2004) and Kurtto & al. (2004); the same for *R. andegavensis* (Bast.) Desp., collected on Mt. Amiata near Seggiano (HS 3227)

Rosa corymbifera Borkh. ! - NP - Eur.Medit. - R: 1,2,5,6 - L; *R. obtusifolia* Desv., indicated from Cornate di Gerfalco, is included here (Kurtto & al. 2004)

Rosa dumalis Bechst. - NP - Teth.Eur. - RR: 6,7 - L; Mt. Labbro and Mt. Amiata; the report of *R. glauca* Pourr. from Mt. Amiata (Selvi 1996) is to be referred here

Rosa gallica L. ! - NP - Teth.Eur. - R: 2,6 - L

Rosa micrantha Borrer ex Sm. ! - NP - Teth.Eur. - L: 6,7 - L; the indication of *R. abietina* Gren. ex H. Christ from Mt. Labbro (FI!; Baldini 1996) is referred here

Rosa pendulina L. ! - NP - Europ. - RR: 6 - M; only known from the top of Mt. Amiata (HS 1561; Selvi 1996, 1997b)

Rosa pouzini Tratt. - NP - Medit. - R: 1,4,5,7 - L

Rosa rubiginosa L. - NP - Teth.Eur. - RR: 7 - L; indicated from Mt. Labbro (Baldini 1996)

Rosa sempervirens L. ! - NP - Medit.Atl. - CC: 1,2,3,4,5,7,8,9 - K

Rubus caesius L. ! - NP - Eurosib.Teth. - R: 1,5,7 - L

Rubus canescens DC. ! - NP - Eur.Medit. - C: 1,2,4,5,6,7 - L; apparently intermediate forms between *R. canescens* and *R. ulmifolius* (i.e. collected near Roccatederighi, HS 2768) seem relatively frequent; these are in need of further investigation

Rubus hirtus Waldst. et Kit. ! - NP - Mid Europ. - C: 1,5,6,7 - L

Rubus idaeus L. - NP - Bor. - L: 6 - N

Rubus ulmifolius Schott ! - NP - Medit.Atl. - CC: 1,2,3,4,5,6,7,8,9 - L,N

Sanguisorba minor subsp. *balearica* (Bourg. ex Nyman) Munoz Garm. et C. Navarro ! - H scap - Teth.Eur. - C: 1,2,7,9 - G

Sanguisorba minor Scop. subsp. *minor* ! - H scap - Teth.Eur. - CC: 1,2,3,4,5,6,7,9 - G

Sorbus aria (L.) Crantz ! - P scap - Eur.OroMedit. - R: 1,6,7 - L

Sorbus aucuparia L. - P caesp - Bor. OroMedit. - RR: 6 - L; top of Mt. Amiata (Selvi 1996)

Sorbus domestica L. - P scap ! - Eur.Medit. - C: 1,2,3,4,5,6,7,8,9 - L

Sorbus torminalis (L.) Crantz ! - P scap - Eur.OroMedit. - C: 1,2,4,5,6,7,8 - L

RHAMNACEAE

Frangula alnus Mill. ! - P caesp - Eurosib. - R: 1 - L; Farma valley (HS 2462; Chiarucci & al. 1993)

Paliurus spina-christi Mill. ! - P caesp - Medit. Balk. - C: 1,2,3,4,5,9 - K,L

Rhamnus alaternus L. ! - P caesp - Medit. - C: 1,2,3,4,5,9 - K

Rhamnus cathartica L. ! - P caesp - Eurosib.Teth. - R: 7 - L; Mt. Penna (HS 1526, 2835)

ULMACEAE

Celtis australis L. ! - P scap - Medit. Balk. - R (as native): 5,8,9 - L; often found as escaped, but native in the rocky habitats of the Albegna and Fiora valleys (Viciani & al. 2004, Frignani & al. 2007a)

Ulmus glabra Huds. ! - P scap - Europ. - R: 1,7,8 - L

Ulmus minor Mill. - P scap - Eur.Medit. - CC: 1,2,3,4,5,7,8 - L

CANNABACEAE

Humulus lupulus L. ! - P lian - Eurosib. - C: 1,2,4,5,8 - L

MORACEAE

Ficus carica L. ! - P scap - Medit. Ir.Tur. - C: 1,2,3,4,5,8 - K

URTICACEAE

Parietaria judaica L. ! - H scap - Teth.Eur. - CC: 1,2,3,4,5,7,8,9 - C,N

Parietaria lusitanica L. ! - T rept - Medit. Balk. - RR: 4 - C; limestone sea cliffs in the Uccellina hills (FI!; Arrigoni 2003)

Parietaria officinalis L. ! - H scap - Teth.Eur. - C: 1,4,5,7 - L

²***Urtica atrovirens*** Req. ex Loisel. - H scap - Endem. (Sardinia, Corsica, Tuscan Archipelago) - 4?; indicated from Talamone (Baroni 1902, Fiori 1923) based on a record by Forsyth-Major (1883) that we could not trace in FI; collected near Campiglia M.ma in the Livorno province (coll. Fiori 1911, FI!)

Urtica dioica L. ! - H scap - Holarct. - C: 1,2,5,6,7,8 - N

Urtica membranacea Poir. ! - T scap - Medit. - C: 2,3,4,7,9 - N

Urtica pilulifera L. ! - T scap - Teth. Pont. - R: 2,4,9 - N

Urtica urens L. ! - T scap - Bor.Teth. - R: 2,4 - N

FAGACEAE

Castanea sativa Mill. - P scap - Eur.OroMedit. - C: 1,2,5,6,7,8 - L

Fagus sylvatica L. - P scap - Europ. - C: 1,2,5,6,7,8 - L

Quercus cerris L. ! - P scap - MidEur.Medit. - CC: 1,2,5,6,7,8,9 - L

Quercus crenata Lam. ! - P scap - Medit. - L: 1,2,9 - K,L; relatively frequent in the northern sectors (I and II)

Quercus dalechampii Ten. ! - P scap - MidEur.Medit. - R: 3,4 - L; sandy, humid habitats in the coastal areas of Burano (Angiolini & al. 2002) and along “fiumara” of S. Leopoldo north of Marina di Grosseto (HS 3022). The identity of the oaks from the above localities, in a similar habitat, is somewhat uncertain. In most plants from S. Leopoldo the twigs and leaves are nearly glabrous, sometimes with sparse tufts of hairs at the branching points of the veins, but plants with more tomentose parts matching typical *Q. pubescens* also occur. The shape of the leaves match *Q. dalechampii* as described in *Fl. Eur.* and illustrated in Aeschmann & al. (2004), e.g. with a maximum width in the upper half of the blade and with wide lobes. The scales of the fruit involucre are conrescent, tuberculate and subglabrous as reported for *Q. dalechampii*. According to Brullo & al. (1999), however, these characters are more typical of *Q. petraea*, while *Q. dalechampii* has pubescent and not tuberculate scales. The identity of these populations remain uncertain.

Quercus frainetto Ten. ! - P scap - MidEur.Medit. - L: 5,9 - L; rare near Poggioferro in the Scansano area, more abundant in the Capalbio area (Arrigoni 1974)

Quercus ilex L. ! - P scap - Medit. - CC: 1,2,3,4,5,6,7,8,9 - K,L

Quercus petraea (Matt.) Liebl. ! - P scap - MidEur.Medit. - L: 1,2 - L; relatively frequent in the northern sectors (I and II), but see note to *Q. dalechampii*

Quercus pubescens Willd. ! - P scap - MidEur.Medit. - CC - L,K: 1,2,4,5,6,7,8

Quercus robur L. ! - P scap - Europ. - RR - L: 1; very rare in the Farma valley (HS 2086; Chiarucci & al. 1993)

Quercus suber L. ! - P scap - W Medit. - C: 1,2,3,4,9 - K

JUGLANDACEAE

Juglans regia L. - P scap - occasionally Naturalized - R: 1,2,6,7,8 - L

BETULACEAE

Alnus glutinosa (L.) Gaertn. - P scap - Eurosib. - C: 1,2,5,6,7,8 - L

Betula pendula Roth ! - P scap - Eurosib. - RR: 1 - L; Farma valley near Belagaio (Chiarucci & al. 1993, Morrocchi & al. 1997)

Carpinus betulus L. ! - P scap - Europ. - C: 1,2,5,6,7 - L

Carpinus orientalis Mill. - P scap - MidEur.Pont. - ? old indications from Capalbio and Manciano (Savi and Bertoloni in Caruel 1860-64 sub *C. duinensis* Scop.); more recent indications are lacking and the species needs confirmation

Corylus avellana L. - P caesp - Eur.OroMedit. - C: 1,2,5,6,7 - L

Ostrya carpinifolia Scop. ! - P scap - Eur.Medit. - C: 1,2,4,5,6,7 - L

CUCURBITACEAE

Bryonia dioica Jacq. ! - H scand - MidEur.Medit. - R: 2,3,5,6,7 - N

Ecballium elaterium (L.) A.Rich. ! - G bulb - Teth. Pont. - C: 2,3,4,9 - N

CELASTRACEAE

Euonymus europaeus L. - P caesp - Eur.Medit. - C: 1,2,4,5,6,7,8 - L

Euonymus latifolius (L.) Mill. ! - P caesp - Europ. - RR: 6 - L; Mt. Amiata in the fir wood near Vivo d'Orcia (Selvi 1996)

OXALIDACEAE

Oxalis acetosella L. ! - G rhiz - Bor. - R: 6,7 - L

Oxalis articulata Savigny ! - G rhiz - Naturalized - R: 2 - N; Versegge near Montepescali (HS 3267)

Oxalis corniculata L. ! - H rept - Cosmop. - C: 2,3,4 - N

Oxalis pes-caprae L. - G bulb - Naturalized - C: 2,3,4 - N

Oxalis purpurata Jacq. - G bulb - Naturalized - C: 2,3,4 - N

EUPHORBIACEAE

Chamaesyce humifusa (Willd. ex Schltr.) Prokh. ! - T rept - Naturalized - R: 4 - N; indicated from the Maremma park (Arrigoni 2003, sub *Euphorbia h.* Willd.)

Chamaesyce maculata (L.) Small ! - T rept - Naturalized - R: 2,5 - N

Chrozophora tinctoria (L.) Raf. ! - T scap - Medit. - R: 2,5,9 - N

Euphorbia amygdaloides L. ! - Ch suffr - Eur.Medit. - C: 1,2,5,6,7,8 - L

Euphorbia barbelieri Savi ! - Ch suffr - Medit. - L: 2,3,4,5 - B,G

Euphorbia characias L. ! - NP - Medit. - R: 5,7 - G

Euphorbia cuneifolia Guss. ! - T scap - CW Medit. - R: 2,4,9 - E; area of Roccastrada in the open cork oak woods of Versegge and Lattaia (Selvi 2002), area of Capalbio and Burano (coll. Sommier 1892, FI!)

Euphorbia cyparissias L. ! - H scap - Europ. - CC:1,2,5,6,7,8,9 - G,L,N

Euphorbia dendroides L. ! - NP - Medit. - R: 3,4 - C

Euphorbia dulcis L. ! - G rhiz - Europ. - C: 1,2,5,6,7,8 - L; incl. subsp. *incompta* (Ces.) Nyman

- Euphorbia esula* L. ! - H scap - Europ. - RR: 5 - I; very rare in the Vivo valley near Seggiano on dry clayey slopes (HS 3263)
- Euphorbia exigua* L. ! - T scap - Eur.Medit. - C: 2,3,4,5,9 - H
- Euphorbia falcata* L. ! - T scap - Medit. Ir.Tur. - R: 1,5 - N
- Euphorbia helioscopia* L. ! - T scap - Teth.Eur. - CC: 1,2,3,4,5,7,9 - N
- Euphorbia hirsuta* L. ! - G rhiz - Medit. - R: 3,4,5 - B
- Euphorbia lathyris* L. ! - H bienn - Medit. - RR: 2,3 - N; area of Mt. Leoni (locality Arnaione; HS 2739; Selvi 1998) and Punta Ala (in obs.!)
- Euphorbia palustris* L. ! - G rhiz - Europ. - L: 3,4 - E
- Euphorbia paralias* L. ! - Ch frut - Eur.Medit. - L: 3,4 - B
- Euphorbia peplis* L. - T rept - Eur.Medit. - L: 3,4 - B
- Euphorbia peplus* L. - T scap - Teth.Eur. - CC: 1,2,3,4,5,8,9 - G,H,N
- Euphorbia platyphyllos* L. ! - T scap - Eur.Medit. - C: 2,3,5 - L,N
- Euphorbia pterococca* Brot. - T scap - Medit. - RR: 5,9 - C; Albegna valley near Marsiliana (coll. *Sommier* 1892, FI!) and in the calcareous cliffs of Rocconi (Angiolini & al. 2004, Frignani & al. 2007a)
- Euphorbia segetalis* L. subsp. *segetalis* (L.) Hayek ! - T scap - CW Medit. - L: 3,4 - B,C
- Euphorbia segetalis* subsp. *pinea* (L.) Hayek ! - H scap - CW Medit. - L: 3,4 - B,C; the distinction from subsp. *segetalis*, mainly based on habit and leaf shape, is often uncertain; the two forms are often found in the same areas along the coastal sectors, in both sandy and rocky habitats near to the sea
- Euphorbia spinosa* L. ! - Ch suffr - CW Medit. - R: 5,7 - G
- **Euphorbia sulcata* Lens - indicated by error from the valley of the Mozzapiede stream in the area of Scansano (Cenerini 1998) and the Montioni park near Follonica (Cenerini & Tomei 1994)
- Euphorbia terracina* L. ! - T scap - Medit. - L: 3,4 - B
- Euphorbia verrucosa* L. ! - H scap - Europ. - R:1,2,5 - L
- Mercurialis annua* L. ! - T scap - Teth.Eur. - CC: 1,2,3,4,5,6,7,8,9 - N
- Mercurialis perennis* L. ! - G rhiz - Mid Europ. - C: 1,2,5,6,7,8 - L

ELATINACEAE

- Elatine alsinastrum* L. ! - I rad - Eurosib.Medit. - RR: 9 - E; small lake of Marruchetone near Capalbio (Lastrucci & al. 2007)

SALICACEAE

- Populus alba* L. - P scap - Eurosib.Medit. - C: 1,3,4,5,6,8,9 - L
- Populus canescens* (Aiton) Sm. - P scap - Europ. - R: 3,4,9 - L
- Populus nigra* L. ! - P scap - Eurosib.Medit. - C: 1,4,5,6,7,8 - L; incl. subsp. *neapolitana* (Ten.) Maire
- Populus tremula* L. - P scap - Bor. OroMedit. - L: 1,2,6 - L
- Salix alba* L. ! - P scap - Eurosib.Teth. - C: 1,2,3,4,5,6,7,8,9 - L; incl. var. *vitellina* (L.) Stokes, indicated from the Farma valley (Chiarucci & al. 1993) and common in cultivated areas; indications of *S. viminalis* L. (Bergman & al. 1988 in Chiarucci & al. 1993, Selvi 1998, Maccherini & al. 2001) are to be referred here
- Salix apennina* A.K. Skvortsov ! - NP - Endem. (Apennines) - L: 1,6 - L

- Salix caprea* L. ! - P caesp - Bor. - R: 1,6,7,8 - L
Salix cinerea L. ! - P caesp - Eurosib.Teth. - C: 1,2,4,5,9 - L
Salix eleagnos Scop. ! - P caesp - Eur.OroMedit. - C: 1,5,6,7 - L
Salix purpurea L. ! - P caesp - Eurosib.Teth. - C: 1,2,5,6,7,8 - L
Salix triandra L. ! - P caesp - Eurosib.Teth. - R: 2 - L; near the railway station of Roccastrada (HS 1604) and between Sticciano and Braccagni (!)

VIOLACEAE

- ?*Viola hirta* L. - H ros - Eurosib. - 1?,9?; indicated from Capalbio (Sommier 1892a) and the Farma valley (Bergman in Chiarucci & al. 1993), but not supported by herbarium records; to be confirmed
Viola alba subsp. *dehnhardtii* (Ten.) W. Becker ! - H ros - Medit. - C: 1,2,5,6,7,8,9 - K,L
Viola arvensis Murray ! - T scap - Eurosib.Medit. - C: 2,4,5,7,8,9 - G,N
Viola canina subsp. *ruppii* (All.) Schübl. et G. Martens ! - H scap - Bor. - R: 1,2,6 - G
Viola etrusca Erben ! - H ros - Endem. (Maremma) - L: 1,6,7 - G,I
Viola kitaibeliana Schult. ! - T scap - OroMedit.Pont. - R: 1,7 - G,I
Viola odorata L. ! - H ros - Eur.Medit. - C: 1,2,6,7 - K
Viola reichenbachiana Jord. ex Boreau ! - H scap - Eur.Medit. - C: 1,2,5,6,7,8,9 - L
Viola riviniana Rchb. ! - H scap - Eur.Medit. - R: 1,2,6 - L
Viola tricolor L. - H scap - Eurosib.Medit. - C: 1,4,5,6,7 - G,N

LINACEAE

- Linum bienne* Mill. ! - H bienn - Eur.Medit. - C: 1,2,3,4,5,6,7,8,9 - G
 **Linum campanulatum* L. - an old and unreliable indication from Talamone (Savi in Caruel 1860-64)
Linum catharticum L. ! - T scap - Europ. - R: 6,7 - L
Linum corymbulosum Rchb. - T scap - Medit. - R: 1,4 - H
Linum maritimum L. ! - H scap - Medit. - L: 3,4 - B
Linum nodiflorum L. ! - T scap - Medit. Ir.Tur. - R: 5,9 - G
Linum strictum L. ! - T scap - Medit. - C: 2,3,4,5,7,9 - G,H
Linum tenuifolium L. ! - Ch suffr - Eur.Medit. - C: 1,2,5,7 - G
Linum trigynum L. ! - T scap - Teth.Eur. - C: 1,2,3,4,5,7,9 - G,H
Linum viscosum L. ! - H scap - OroEurop. - RR: 7 - G; area of Seggiano between Piagge and Altore (HS 1965)
Radiola linoides Roth ! - T scap - Eur.Medit. - RR: 2,9 - E; pozzines on acid soils in the openings of macchias in the area of Mt. Leoni (HS 1065, 1066; Selvi 1998) and Capalbio (Sommier in Baroni 1898, FI!)

HYPERICACEAE

- Hypericum androsaemum* L. ! - NP - Teth.Eur. - R: 1,2,5,9 - L
Hypericum australe Ten. ! - H scap - C Medit. - L: 2,3 - E,G; all indications of *H. humifusum* L. are to be referred here
 **Hypericum coris* L. - an old, unreliable indication from the Uccellina hills at Cala di Forno (Savi in Caruel 1860-64)
Hypericum hirsutum L. ! - H scap - Eurosib.Teth. - R: 1,7 - L,N

Hypericum montanum L. ! - H caesp - CW Medit. Europ. - C: 1,2,6,7 - L

Hypericum perforatum L. ! - H scap - Medit. - R: 1,2,4,7 - K

Hypericum perforatum subsp. *veronense* (Schrank) Cesati ! - H scap - Eurosib.Teth. - 1,2,3,4,5,6,7,8 - G,N; identification and nomenclature is according to Ciccarelli & Garbari (2004)

Hypericum tetrapterum Fr. ! - H scap - Eur.OroMedit. - R: 2,6,8 - G

GERANIACEAE

Erodium acaule (L.) Bech. et Thell. ! - H ros - Medit. - R: 1,4,5,7 - G

²*Erodium alnifolium* Guss. - T scap - W Medit. - 4?; an old indication from Talamonaccio (Poggi & Rossetti 1889, Baroni 1898, Fiori 1925), not supported by herbarium material or later observations

Erodium botrys (Cav.) Bertol. ! - T scap - Medit. - C: 2,4 - N

Erodium ciconium (L.) L'Hér. ! - T scap - Teth.Eur. - R: 4,9 - N

Erodium cicutarium (L.) L'Hér. ! - T scap - Eurosib.Teth. - CC: 1,2,3,4,5,6,7,9 - N; the annual forms with a reduced size, often found in coastal sandy habitats, can be referred to var. *arenarium* (Jord.) Rouy

Erodium laciniatum (Cav.) Willd. ! - T scap - Medit. - R: 4 - B; coastal sands between Burano and Chiarone (coll. *Sommier* 1892, FI!; HS 0611, 2073; Angiolini & al. 2002)

Erodium lebelii subsp. *maruccii* (Parl.) Guitt. - T scap - W Medit. - RR: 4 - B; indicated from the dunes of Burano (Angiolini & al. 2002) but to be confirmed; the taxon is only known from Elba island

Erodium malacoides (L.) L'Hér. ! - T scap - Medit. Ir.Tur. - C: 2,3,4,5 - N

**Erodium maritimum* (L.) L'Hér. - the indications from Orbetello (Baroni 1898, Fiori 1925, Pignatti 1982) are based on a specimen (coll. *Ricasoli* 1843, FI!) belonging to *E. laciniatum*; *E. maritimum* is only present in the islands of the Tuscan Archipelago

Erodium moschatum (L.) L'Hér. ! - T scap - Eur.Medit. - C: 2,3,4 - N

Geranium columbinum L. ! - T scap - Teth.Eur. - CC: 1,2,3,4,5,6,7,8,9 - G,L,N

Geranium dissectum L. ! - T scap - Teth.Eur. - C: 1,2,3,4,5,8,9 - G,L,N

Geranium lanuginosum Lam. ! - T scap - C Medit. - RR: 2 - K; area of Mt. Leoni near Sticciano, in recently burned forest places (HS 0617, 1779, 1780; Selvi 2002)

Geranium lucidum L. ! - T scap - Teth.Eur. - C: 1,2,4,6,7,8 - C,K

Geranium molle L. ! - T scap - Teth.Eur. - CC: 1,2,3,4,5,6,7,8,9 - N

Geranium nodosum L. ! - G rhiz - Europ. - R: 1,6,7 - L

Geranium purpureum Vill. ! - T scap - Teth.Eur. - CC: 1,2,3,4,5,7,8,9 - K,N

Geranium pusillum L. - T scap - Teth.Eur. - R: 1,4,5 - G,N

Geranium robertianum L. ! - T scap - Teth.Eur. - C: 1,2,4,5,6,7,8 - L,N

Geranium rotundifolium L. ! - T scap - Teth.Eur. - C: 1,2,3,4,5,8,9 - G,N

Geranium sanguineum L. ! - H scap - Europ. - C: 1,2,4,5,6,7,9 - G

LYTHRACEAE

Lythrum hyssopifolia L. ! - T scap - Eurosib.Teth. - C: 2,3,5,9 - E

Lythrum junceum Banks et Sol. ! - H scap (T scap) - Medit. - R: 3,4 - E

Lythrum salicaria L. ! - H scap - Holarct. - CC: 1,2,3,4,5,6,8,9 - E

Lythrum tribracteatum Spreng. ! - T scap - Teth.Eur. - RR: 9 - E; small lakes in the area

of Capalbio (HS 2695; Lastrucci & al. 2007)

Lythrum borysthenicum (Schrank) Litv. [= *Middendorfia b.* (Schrank) Trautv.]; *Peplis erecta* Req.] - T scap - Eur.Medit. - RR: 9 - E; collected only once near Capalbio (coll. Sommier 1892, FI!)

Lythrum portula (L.) D.A. Webb ! (= *Peplis portula* L.) - T rept - Eur.Medit. - R: 1,2,6,9 - E

ONAGRACEAE

**Circaea alpina* L. - an old, unreliable indication (Santi in Caruel 1860-64) from Prata at "Fosso dello Stregaiò"

Circaea lutetiana L. ! - H scap - Eur.OroTeth. - R: 1,2,6,7,8 - L

Epilobium angustifolium L. ! - H scap - Holarct. - R: 6 - N

Epilobium hirsutum L. ! - H scap - Subcosmop. - C: 1,2,3,4,5,6,7,9 - E,G,N

Epilobium lanceolatum Sebast. et Mauri ! - H scap - Eur.OroMedit. - C: 2,6,7,8 - G,N

Epilobium montanum L. ! - H scap - Bor. - R: 1,6,7,8 - L

Epilobium parviflorum Schreb. ! - H scap - Eurosib.Teth. - R: 1,2,4,6,7 - G

Epilobium roseum Schreb. ! - H scap - MidEur.Pont. - RR: 6 - E; Mt. Amiata at the Ermicciolo spring near Vivo d'Orcia (HS 1092; Selvi 1996)

Epilobium tetragonum L. ! - H scap - Eurosib.Teth. - C: 2,3,5,6,9 - G

Ludwigia palustris (L.) Elliott ! - T rept - Holarct. - RR: 2,9 - E; area of Mt. Leoni (Roccastrada) at Pian di Muro (HS 1076; Selvi 2002), and Uccellina lake near Capalbio (HS 2598; Lastrucci & al. 2007)

Oenothera biennis L. ! - H bienn - Naturalized - R: 6 - N

Oenothera chicaginesis Renner ex R.E. Cleland et Blakesee ! - H bienn - Naturalized - L: 3 - B; abundant along the sandy coast south of Follonica near Puntone (HS 2776); rarer on the dunes between Marina di Grosseto and the mouth of river Ombrone (Arrigoni 2003 sub *A. parviflora* L.). The plants belong to var. *bartletti* Soldano

Oenothera speciosa Nutt. ! - H scap - occasional exotic (garden escape ?) - RR: 2 - N; collected only once in May 2010 near Gavorrano on a gravelly soil around a car parking area at the entrance of the limestone mining area of Mt. Calvo (HS 3272); the species is not recorded from Tuscany

MYRTACEAE

Myrtus communis L. ! - P caesp - Medit. Ir.-Tur. - C: 1,2,3,4,9 - K

ANACARDIACEAE

Pistacia lentiscus L. ! - P caesp - Medit.Macar. - C: 1,2,3,4,5,8,9 - K

Pistacia terebinthus L. ! - P scap - Eur.Medit. - L: 4,5,9 - K,L; monumental trees are found on the travertines near Saturnia and mid valley of Albegna (Selvi & Stefanini 2005)

SAPINDACEAE

Acer campestre L. ! - P scap - Teth.Eur. - C: 1,2,4,5,6,7,8,9 - L

Acer monspessulanum L. ! - P scap - Eur.Medit. - C: 1,2,4,5,7,8,9 - K,L

Acer obtusatum Waldst. et Kit. ex Willd. ! - P scap - Apenn.Balk. - L: 5,7,8 - L; the hybrid *A. obtusatum* x *A. monspessulanum* has been collected on Poggio Semproniano (HS 1825)

Acer opalus Mill. - P scap - Eur.OroMedit. - R: 6 - L; lower beech woods of Mt. Amiata (Selvi 1996)

Acer platanoides L. ! - P scap - Eur. Caucas. - R: 1,6,7 - L; upper Siele valley and area of Mt. Penna near Castellazzara

Acer pseudoplatanus L. ! - P scap - Europ. - R: 1,6,7,8 - L

RUTACEAE

Dictamnus albus L. ! - Ch suffr - Bor.Teth. - RR: 5 - L; Albegna valley at Rocconi (HS 1594, Selvi 2002)

Ruta angustifolia Pers. ! - Ch suffr - CW Medit. - R: 4 - K; rocky, calcareous garrigues on the hills of Orbetello and Ansedonia (HS 2679)

?*Ruta chalepensis* L. - Ch suffr - Medit. - 2?; indicated from the urban walls of Massa Marittima (Lisci 1997) but not supported by herbarium records; in need of confirmation

Ruta graveolens L. ! - Ch suffr - Eur.Medit. - R (as native): 1,2,4,5 - K

SIMAROUBACEAE

Ailanthus altissima (Mill.) Swingle - P scap - Naturalized - CC: 1,2,3,4,5,6,7,8,9 - N

CYTINACEAE

Cytinus hypocistis (L.) L. ! - G par - Medit. - C: 1,2,3,4 - K

Cytinus ruber Fourr. ex Fritsch - G rad - Medit. - R: 4 - K; area of Mt. Leoni (in obs. !) and Uccellina hills (Arrigoni 2003)

MALVACEAE

Abutilon theophrasti Medik. ! - T scap - Teth.Eur. - 4,9 - N; small lakes near Capalbio (HS 2594; Lastrucci & al., 2007) and Burano lake (Angiolini & al. 2002)

Alcea rosea L. - H scap - Naturalized - C: 2,3 - N

Althaea cannabina L. ! - H scap - Teth.Eur. - C: 1,2,6,9 - N

Althaea hirsuta L. ! - T scap - Teth.Eur. - C: 1,4,5,7 - N

Althaea officinalis L. ! - H scap - Eurosib.Teth. - R: 2,3,9 - G

**Hibiscus palustris* L. - an old indication from the former lake of Castiglione d. Pescaia (Savi in Caruel 1860-64 sub *H. roseus* Thor.)

Lavatera arborea L. ! - H bienn - Medit.Atl. - RR: 4 - B; calcareous sea cliffs of Talamone (HS 2994; Arrigoni 2003)

Lavatera punctata All. ! - T scap - Medit. - C: 2,3,4,5,7 - N

Malope malacoides L. ! - T scap - Medit. - R: 1,2,5,9 - G

Malva alcea L. ! - H scap - Eur.Medit. - L: 6,7,8 - N

Malva moschata L. ! - H scap - Europ. - R: 1,6 - N

Malva sylvestris L. ! - H scap - Eurosib.Teth. - CC: 1,2,3,4,5,6,7,8,9 - N

Tilia cordata Mill. ! - P scap - Eurosib. - R: 1,7,8 - L

Tilia platyphyllos Scop. ! - P scap - Europ. - L: 1,5,7,8 - L

Tilia x vulgaris Hayne - P scap - Europ. - R: 1,6,7 - N; indicated from Mt. Amiata (Selvi 1996) and Farma valley (Chiarucci & al. 1994)

THYMELAEACEAE

- Daphne gnidium* L. ! - P caesp - Medit.Macar. - CC: 1,2,3,4,5,9 - K
Daphne laureola L. ! - P caesp - Eur.OroMedit. - C: 1,2,5,6,7,8 - L
Daphne sericea Vahl ! - NP - Medit. Ir.Tur. - L: 3,4 - K
Thymelaea hirsuta (L.) Endl. ! - NP - Medit. - R: 3,4 - K
Thymelaea passerina (L.) Coss. et Germ. ! - T scap - Eurosib.Teth. - R: 1,3,5 - G

CISTACEAE

- Cistus creticus* subsp. *eriocephalus* (Viv.) Greuter et Burdet - NP - Medit.Atl. - C: 1,2,3,4,5,6 - K
Cistus monspeliensis L. - NP - Medit.Macar. - C: 1,2,3,4,9 - K
Cistus salvifolius L. - NP - Teth. Atl. - CC: 1,2,3,4,5,6,7,8,9 - K
Fumana arabica (L.) Spach ! - Ch suffr - Medit.Pont. - R: 4; Uccellina hills (HS 0173; Arrigoni 2003) and dry, calcareous hills near Orbetello (HS 2676) - K
Fumana ericifolia Wallr. ! - Ch suffr - Medit. - R: 2,5,9 - K; recently recorded from Mt. Argentario (Marchetti & al. 2009), this is a relatively common species in the dry calcareous habitats of Maremma; all former indications of *F. ericoides* (Cav.) Gand. from this area are to be referred here
Fumana laevipes (L.) Spach ! - Ch suffr - Medit. - R: 3,4 - K; Cala Galera between Rocchette and Punta Ala (HS 1887) and Uccellina hills (Arrigoni 2003)
Fumana procumbens (Dunal) Gren. et Godr. ! - Ch suffr - Eur.Medit. - R: 1,5,7 - G
Fumana thymifolia (L.) Spach ex Webb ! - Ch suffr - Medit. - C: 2,4,5,9 - G,K
Halimium halimifolium (L.) Willk. ! - NP - W Medit. - RR: 4 - B; probably introduced in Tuscany, on the sandy coasts of Follonica (in obs. 2005 !) and Burano (Angiolini & al. 2002)
Helianthemum apenninum (L.) Mill. ! - Ch suffr - Eur.Medit. - R: 5,7
Helianthemum nummularium subsp. *obscurum* (Celak.) Holub ! - H scap - Europ. - C: 1,2,3,4,5,6,7
Helianthemum salicifolium (L.) Mill. ! - T scap - Teth.Eur. - C: 2,4,9 - H
Tuberaria guttata (L.) Fourr. ! - T scap - Medit.Atl. - C: 2,3,4,6 - H
Tuberaria lignosa (Sweet) Samp. ! - H ros - W Medit.Atl. - R: 1,2,4,9 - K

RESEDACEAE

- Reseda alba* L. ! - T scap - Medit. - R: 4,7,9 - N
Reseda lutea L. ! - H scap - Teth.Eur. - C: 2,3,4,5 - N
Reseda luteola L. ! - H scap - Teth.Eur. - C: 1,2,4,5,6,7 - N
Reseda phyteuma L. ! - T scap (H scap) - Medit. - C: 1,2,4,5,7,9 - G,N

CAPPARACEAE

- Capparis spinosa* subsp. *rupestris* (Sm.) Nyman - NP - Medit. - R: 4,9 - C
Capparis spinosa L. subsp. *spinosa* ! - NP - Medit. - C: 1,2,8 - C

CLEOMACEAE

- Polanisia trachysperma* Torr. et A. Gray ! - T scap - Naturalized - R: 2,5 - N; in expansion along water courses, especially Cornia and Trasubbie

BRASSICACEAE

- Aethionema saxatile* (L.) R.Br. ! - Ch suffr - MidEur.Medit. - R: 1 - I; Poggio Croce di Prata (HS 0207) and Mt. Santa Croce (HS 1911)
- Alliaria petiolata* (M.Bieb.) Cavara et Grande ! - H bienn - Teth.Eur. - CC: 1,2,3,4,5,6,7,8,9 - L,N
- Alyssum alyssoides* (L.) L. ! - T scap - Eur.Medit. - C: 1,7 - G
- Alyssum bertolonii* Desv. ! - Ch suffr - Endem. (N Apennines) - R: 1 - L; serpentine outcrops near Roccatederighi (HS 0210; Chiarucci & al. 1993) and Casenovole in the Merse valley (HS 2899)
- Alyssum campestre* (L.) L. ! - T scap - Medit. Ir.Tur. - L: 1,7 - G
- Alyssum montanum* L. ! - Ch suffr - Eur.OroMedit. - R: 1,5,7 - I
- Arabidopsis thaliana* (L.) Heynh. ! - T scap - Eurosib.Teth. - CC: 1,2,4,6,7,8,9 - H,N
- Arabis collina* Ten. ! - H scap - CW Medit. - R: 1,7 - G
- Arabis glabra* (L.) Bernh. ! - H bienn - Holarct. - R: 6 - N; Mt. Amiata (HS 0215; Selvi 1996)
- Arabis hirsuta* (L.) Scop. ! - H bienn - Medit. - C: 1,2,3,5,6,7,8,9 - G
- Arabis sagittata* (Bertol.) DC. ! - H bienn - Eur.Medit. - R: 4,5,7,8 - G
- Arabis turrita* L. ! - H bienn - Eur.Medit. - C: 1,2,4,5,7,8 - L
- Arabis verna* (L.) R.Br. ! - T scap - Medit. - R: 2,4,9 - H
- Barbarea stricta* Andrz. ! - H scap - Europ. - R: 5,6 - E; Mt. Amiata (Selvi 1996) and Torrente Ente (HS 2819)
- Barbarea verna* (Mill.) Asch. ! - H scap - Medit.Pont. - R: 1,5,6,8 - G
- Barbarea vulgaris* R.Br. ! - H scap - Eurosib. - C: 1,2,5,6,7,8 - G
- Biscutella cichoriifolia* Loisel. ! - T scap - CW Medit. Mid Europ. - R: 2,5 - C; rocky limestone slopes on Mt. Calvo near Gavorrano (HS 2406) and Albegna valley at Rocconi (HS 0226)
- Biscutella didyma* L. - T scap - Endem. (Ligurian-Tyrrhenian and Calabro-Apulian regions) - RR: 4 - H; Uccellina hills of Alberese and Cala di Forno in the Maremma park (Arrigoni 2003; HS 2906)
- Biscutella maritima* Ten. ! - T scap - CW Medit. - RR: 2 - H; at the base of the southern slopes of Poggio di Moscona near Bagno di Roselle (HS 2204, 2238; Selvi & Sforzi 2005)
- Biscutella mollis* Loisel. ! - T scap - Endem. (Tuscany and Latium) - R: 2,4,5 - K
- †*Brassica fruticulosa* Cyr. - H scap - CW Medit. - (4); collected only once at the railway station of Orbetello (coll. *Pirotta* 1885, FI!; Baroni 1897), and probably disappeared
- Brassica incana* Ten. ! - Ch suffr - Endem. (Ligurian-Tyrrhenian and Siculo-Apulian regions) - RR: 4 - C; calcareous sea cliffs at Cala di Forno in the Maremma park (HS 3123; Arrigoni 2003)
- Brassica napus* L. ! - T scap - Naturalized - C: 5,7 - N
- Brassica nigra* (L.) W.D.J.Koch ! - T scap - Teth.Eur. - C: 4,5,7 - N
- Brassica rapa* subsp. *campestris* (L.) A.R. Clapham ! - T scap - Naturalized - C: 3 - N
- Brassica rapa* L. subsp. *rapa* - H scap - Naturalized - R: 7 - N; indicated from Mt. Labbro (Baldini 1996)
- Bunias erucago* L. ! - T scap - Eur.Medit. - C: 1,2,3,4,5,7 - N
- Cakile maritima* L. ! - T scap - Medit. - L: 3,4 - B
- Calepina irregularis* (Asso) Thell. ! - T scap - Medit. Ir.Tur. - C: 2,3,5,7 - N

- Capsella bursa-pastoris*** (L.) Medik. - H bienn - Cosmop. - CC:1,2,3,4,5,6,7,8,9 - N
- Capsella rubella*** Reut. ! - T scap - W Medit. - CC: 1,3,4,5,7,8,9 - N
- Cardamine amara*** L. ! - H scap - Bor.Medit. - R: 6,7 - E
- Cardamine amporitana*** Sennen et Pau ! - H scap - W Medit.Apenn. - 1,5,8 - E; common in wet places in the area of Sovana and Sorano (rivers Fiora, Lente, Nova, etc.) and along the Ente river near Montenero; also on Mt. Sassoforte near Roccastrada; the record of *C. raphanifolia* Pourr. (Selvi 2002) is to be referred here; this appears to be the first report of of this taxon from Tuscany
- Cardamine apennina*** Lihová et Marhold ! - H scap - Endem. (C Apennines) - RR: 1 - G; humid places in the woods on the northern slopes of Mt. Sassoforte near Roccalederighi (HS 1871, 1872 sub *C. pratensis* L.) and Farma valley (HS 2024)
- Cardamine bulbifera*** (L.) Crantz ! - G rhiz - Europ. - C: 1,6,7,8 - L
- Cardamine chelidonia*** L. ! - H scap - Apenn.Balk. - L: 1,7,8 - L
- Cardamine flexuosa*** With. - H scap - Holarct. - RR: 1,6 - L; Farma valley (Chiarucci & al. 1993) and Mt. Amiata (Selvi 1996)
- Cardamine graeca*** L. ! - T scap - OroMedit. - RR: 5 - C; shady travertine rocks in the woods on Poggio Bagno Santo near Saturnia (HS 2408; Selvi & Stefanini 2005)
- Cardamine heptaphylla*** (Vill.) O.E. Schulz ! - G rhiz - Mid Europ. - R: 1,6,7 - L
- Cardamine hirsuta*** L. ! - T scap - Cosmop. - CC: 1,2,3,4,5,6,7,8,9 - G,L,N
- Cardamine impatiens*** L. ! - T scap - Bor.Teth. - C: 1,2,6,7 - L
- Cardamine kitaibelii*** Bech. ! - G rhiz - Alp.App. - L: 6,7,8 - L
- Cardamine monteluccii*** Brillii-Catt. et Gubellini ! - T scap - Endem. (C and S Apennines) - RR: 7 - C; calcareous rocks in the upper Albegna valley at Pescinello and Rocconi (Selvi 1995, 2005)
- Cardamine parviflora*** L. ! - T scap - Bor. - RR: 9 - G; extremely rare around the small lake of Marruchetone near Capalbio (HS 2401; Lastrucci & al. 2007)
- Cardaria draba*** (L.) Desv. ! - G rhiz - Teth.Eur. - 1,2,3,4,5,8,9 - N
- Clypeola jonthlaspi*** L. ! - T scap - Medit.Pont. - R: 4 - B
- ?***Coronopus didymus*** (L.) Sm. - T rept - 7?; an old indication from Castellazzara (Savi in Caruel 1860-64 sub *Senebiera pinnatifida* Dec.)
- Coronopus squamatus*** (Forssk.) Asch. ! - T rept - Teth.Eur. - R: 3,4 - N
- ?***Descurainia sophia*** (L.) Webb - T scap - Subcosmop. - 6,7?; old indications from Arcidosso, Selvena and Grosseto (Santi in Caruel 1860-64 sub *Sisymbrium sophia* L.)
- Diplotaxis eruroides*** (L.) DC. ! - T scap - Medit. - R: 2,4 - N
- Diplotaxis tenuifolia*** (L.) DC. ! - H scap - Eur.Medit. - L: 3,4 - B,N
- ?***Diplotaxis viminea*** (L.) DC. - T scap - Medit.Atl. - 8?; an old indication from Pitigliano in the Fiora valley (Savi in Caruel 1860-64, Pignatti 1982), not supported by herbarium collections; in need of confirmation
- Draba muralis*** L. ! - T scap - Holarct. - R: 1,2,7 - C
- Erophila verna*** subsp. *praecox* (Steven) Walp. ! - T scap - Teth. Pont. - CC: 1,2,3,4,6,7,8,9 - G,H,N
- Erophila verna*** (L.) DC. subsp. *verna* - T scap - Eurosib.Teth. - C: 1,3,4,7 - H,N
- Eruca vesicaria*** subsp. *sativa* (Mill.) Thell. ! - T scap - Teth. - RR: 2,3 - N; Civitella M.ma (HS 2961) and Diaccia Botrona (Sforzi & Selvi 1999)
- Erysimum cheiri*** (L.) Crantz ! - Ch suffr - Naturalized - 1,4,7 - N

- Erysimum pseudorhaeticum* Polatschek ! - H scap - Endem. (Apennines) - C: 4,5,6,7,9 - C,I
 **Hesperis laciniata* All. - an old, unreliable, indication from Poggio di Montieri (Santi in Caruel 1860-64)
- Hesperis matronalis* L. ! - H scap - Eurosib. - RR: 7 - L; Mt. Penna near Castellazzara (HS 3065, 3167; Frignani & al. 2008)
- Hirschfeldia incana* (L.) Lagr. ! - Foss. - T scap - Medit. - C: 2,3,4,7,9 - N
- Hornungia petraea* (L.) Rchb. ! - T scap - Eur.Medit. - C: 1,2,3,4,9 - C
- Iberis umbellata* L. ! - T scap - Medit. - R: 1,2,4 - C
- Isatis tinctoria* L. ! - H bienn - Eur.Medit. - RR: 3 - N; marginal areas of Diaccia Botrona (HS 0251; Sforzi & Selvi 1999), where it is possibly occasional
- ?*Kerneria saxatilis* (L.) Sweet - H ros - Eur.OroMedit. - ??; indicated from Mt. Labbro (Maccherini & al. 1994) but not supported by herbarium material; in need of confirmation
- Lepidium campestre* (L.) R.Br. ! - T scap - Eur.Medit. - C: 1,5,6,7 - N
- Lepidium graminifolium* L. ! - H scap - Eur.Medit. - C: 1,2,3,4 - N
- Lobularia maritima* (L.) Desv. ! - H scap - Medit. - L: 4 - C
- Lunaria annua* L. ! - H scap - Medit. (probably naturalized) - C: 2,5,7 - N
- Lunaria rediviva* L. - H scap - Europ. - R: 1,6,8 - L; rare on Mt. Amiata and in the upper river Lente valley, escaped from cultivation near Gerfalco (Frignani & al. 2004)
- Malcolmia nana* (DC.) Boiss. ! - T scap - Medit. - RR: (1),4 - B; rare on the southern shore of the Feniglia isthm (HS 2717; Selvi 2007); collected once on the sand dunes of Follonica (coll. Fiori 1911, FI!) but here apparently disappeared
- Malcolmia ramosissima* (Desf.) Gennari ! - T scap - Medit. - R: 3,4 - B
- Matthiola incana* (L.) R. Br. ! - Ch suffr - Medit. - R: 3,4 - C
- Matthiola sinuata* (L.) R. Br. ! - H scap - Medit.Atl. - L: 3,4 - B
- **Murbeckiella zanonii* (Ball) Rothm. - an old, unreliable indication by Bertoloni from Mt. Amiata (Selvi 1996)
- Myagrum perfoliatum* L. ! - T scap - Eurosib. Medit. - R: 2,3,4,5 - N
- Nasturtium officinale* R.Br. ! - H scap - Teth.Eur. - C: 1,2,5,6,7,8,9 - E
- Neslia paniculata* (L.) Desv. ! - T scap - Bor. - RR: 3,9 - N; near Orbetello (HS 2634) and Marina di Grosseto in the place called Canova (HS 2853)
- Raphanus raphanistrum* subsp. *landra* (DC.) Bonnier et Layens ! - T scap - Medit. - R: 3 - N
- Raphanus raphanistrum* L. subsp. *raphanistrum* ! - T scap - Teth.Eur. - C: 1,2,3,4,5,8,9 - N
- Rapistrum rugosum* (L.) All. ! - T scap - Teth - C: 2,3,7 - N
- Rorippa amphibia* (L.) Besser ! - H scap - Eurosib. OroMedit. - R: 9 - E; small lakes near Capalbio, especially Lagaccioli (Lastrucci & al. 2007)
- Rorippa anceps* (Wahlenb.) Rchb. ! - H scap - Atl. Europ. - R: 1,2 - E; banks of river Ombrone (HS 2104) and Accessa lake (HS 2409)
- Rorippa pyrenaica* (Lam.) Rchb. ! [= *R. stylosa* (Pers.) Mansf. et Rothm.] - H scap - Europ. - R: 1,8,9 - N; humid meadows near Roccatederighi and San Quirico in the area of Vitozza (Selvi 2001, Viciani & al. 2004)
- Sinapis alba* L. - T scap - Medit. - 8 - N; city walls of Pitigliano (Santi in Caruel 1860-64, Lisci, 1997)
- Sinapis arvensis* L. ! - T scap - Teth.Eur. - C: 1,3,4,6,7 - N
- Sisymbrium officinale* (L.) Scop. ! - T scap - Eurosib.Teth. - C: 1,2,5,7 - N

Sisymbrium polyceratum L. - T scap - Medit. - 5?; an old indication from Montiano (Santi in Caruel 1865)

Teesdalia coronopifolia (J.P. Bergeret) Thell. ! - T scap - Medit.Pont. - R: 1,6,9 - C

Thlaspi arvense L. ! - T scap - Bor.Teth. - RR: 1 - N; near Travale in the upper Cecina valley (HS 2507)

Thlaspi perfoliatum L. ! - T scap - Teth.Eur. - C: 4,5,9 - N

SANTALACEAE

Osyris alba L. - NP - Eur.Medit. - CC: 1,2,3,4,5,8,9 - K

Thesium divaricatum Mert. et W.D.J. Koch ! - Ch suffr - Eur.Medit. - C: 1,2,3,4,5,7,9 - K

Thesium linophyllum L. ! - H scap - Europ. - C: 1,2,5,6 - L

Viscum album L. ! - P epif - Bor.Teth. - R: 1,7 - L; near Castellazzara in the locality Murceti, on *Acer campestre* (HS 1844) and Farma valley on *Pyrus pyraster* (HS 2642)

LORANTHACEAE

Loranthus europaeus Jacq. - P epif - Europ. - C: 1,2,4,5,6,7 - K,L

FRANKENIACEAE

Frankenia laevis L. ! - Ch suffr - Medit.Atl. - RR: 4 - B; Patanella near Orbetello (HS 0584)

Frankenia pulverulenta L. ! - T scap - Teth. Pont. - RR: 4 - B; humid, saline pastures in the gulf of Talamone (HS 1896) and Orbetello lagoon (Andreucci 2004)

TAMARICACEAE

Tamarix africana Poir. ! - P scap - W Medit.Macar. - C: 2,3,4,9 - B,N

Tamarix canariensis Willd. - P caesp - Culta (W Medit.Macar.) - RR: 3 - B; indicated from the coastal plain of the Maremma park (Arrigoni 2003), where it is probably introduced

Tamarix gallica L. ! - P scap - W Medit.Atl. - L: 3,5 - B

PLUMBAGINACEAE

Armeria saviana Selvi ! - H ros - Endem. (Maremma) - 7 - G; Mt. Labbro, Poggio Volturaie, Mt. Aquilaia, Mt. Buceto, Poggio all'Olmo; the indications of *A. majellensis* subsp. *ausonia* F. Bianchini from Mt. Labbro and *A. cfr. marginata* from Poggio all'Olmo (Maccherini & al. 2001) are to be referred to this species (Selvi 2009b)

Armeria denticulata (Bertol.) DC. ! - H ros - Endem. (Tuscany) - RR: 1,7 - G; serpentine outcrops near Roccatederighi (Colle della Miniera) and Merse valley near Casenovole (Fosso Lescone); the indication from Pietra Sorbella near Arcidosso and Stribugliano (Angiolini & De Dominicis 1999) is to be referred to *A. saviana*

Limonium etruscum Arrigoni et Rizzotto - H ros - Endem. (Maremma) - RR: 3,4 - B; humid and saline places behind the dunes in the Maremma park between the mouth of the river Ombrone and Collelungo (Arrigoni & Rizzotto 1985)

Limonium multifforme Pignatti ! - H ros - Endem. (Tuscany) - L: 3,4 - B

Limonium narbonense Mill. ! - H ros - Medit. - L: 3,4 - B

Plumbago europaea L. ! - Ch frut - Teth. Pont. - R: 4,5 - N; near Magliano (HS 1168), Albinia (HS 3072) and coast at the mouth of the river Osa (HS 2471)

POLYGONACEAE

- Fallopia convolvulus* (L.) Á.Löve ! - T scap - Holarct. - C: 1,2,6 - N
Fallopia dumetorum (L.) Holub ! - T scap - Bor.Teth. - R: 2,6 - L,N
Persicaria amphibia (L.) Gray ! - G rhiz - Holarct. - R: 2,9 - E
Persicaria decipiens (R. Br.) K.L. Wilson ! - H scap - Subcosmop. - R: 2,9 - E,N
Persicaria hydropiper (L.) Spach ! - T scap - Holart.Paleotrop. - C: 1,2 - E,N
Persicaria lapathifolia (L.) Gray - T scap - Holart.Paleotrop. - C: 1,2,3,5,7,9 - E,N
Persicaria maculosa (L.) Gray - T scap - Bor.Teth. - R: 2 - N
Persicaria minor (Huds.) Opiz ! - T scap - Eurosib. - R: 2 - N
Persicaria mitis (Schrank) Assenov ! [= *P. dubia* (Stein) Fourr.] - T scap - Europ. - C: 2,4 - N
Polygonum arenastrum Boreau ! - T rept - Bor.Teth. - C: 2,3 - N
Polygonum aviculare L. ! - T rept - Cosmop. - CC : 1,2,3,4,6,7 - N
Polygonum bellardii All. ! - T scap - Eur.Medit. - C: 2,5,9 - N
Polygonum maritimum L. ! - H rept - Teth.Eur. - L: 3,4 - B
Polygonum romanum Jacq. ! - Ch suffr - Endem. (Ligurian-Tyrrhenian and Siculo-Apulian regions) - R: 2,4 - N
Polygonum rurivagum Boreau - T rept - Subcosmop. - RR: 4 - N; Uccellina hills in the Maremma park (Arrigoni 2003)
Rumex acetosa L. ! - H scap - Bor.Teth. - C: 1,2,6,7 - G
Rumex acetosella L. ! - H scap - Holarct. - CC: 1,2,4,5,6,7,8 - G,N
Rumex bucephalophorus subsp. *gallicus* (Steinh.) Rech. f. ! - T scap - Medit. - R: 4 - B; sandy fields at Patanella near Orbetello (HS 1187) and Maremma park (Arrigoni 2003)
Rumex conglomeratus Murray ! - H scap - Teth.Eur. - C: 1,2,3,4,5,7 - N
Rumex crispus L. - H scap - Subcosmop. - C: 1,2,3,4,5,6,7 - N
Rumex obtusifolius L. ! - H scap - Subcosmop. - C: 5,6,7 - G,L
Rumex pulcher L. ! - H scap - Teth.Eur. - C: 2,5,7 - N
Rumex sanguineus L. ! - H scap - Teth.Eur. - C: 1,2,6,7 - G,L

CARYOPHYLLACEAE

- Agrostemma githago* L. ! - T scap - Eurosib.Teth. - R: 7 - N; cultivated fields on Mt. Labbro (HS 0078; Maccherini & al. 1994), Poggio all'Olmo (Maccherini & al. 2001), Poggio Semproniano (HS 1826)
Arenaria leptoclados (Rchb.) Guss. ! - T scap - Eur.Medit. - CC: 1,2,3,4,5,7 - H,N
Arenaria serpyllifolia L. ! - T scap - Holart.Paleotrop. - C: 1,4,5,6,7 - G,H,N
Cerastium arvense L. ! - H scap - Holarct. - C: 1,2,6,7 - G,L
Cerastium brachypetalum Pers. subsp. *brachypetalum* ! - T scap - Eur.Medit. - C: 1,3,4,5,6,7 - G,N; incl. *C. brachypetalum* Pers. subsp. *tauricum* (Spreng.) Murb.
Cerastium brachypetalum subsp. *roeseri* (Boiss. et Heldr.) Nyman ! - T scap - Medit. - C: 1,5,7 - G,N
Cerastium brachypetalum subsp. *tenoreanum* (Ser.) Soó ! - T scap - Eur.Medit. - C: 5,6,7 - G,N
Cerastium fontanum subsp. *vulgare* (Hartm.) Greuter et Burdet ! - H scap - Bor.Teth. - C: 1,5,6,7 - G
Cerastium glomeratum Thuill. ! - T scap - Cosmop. - CC: 1,2,4,5,7 - N
Cerastium glutinosum Fr. ! - T scap - Eur.Medit. - C: 1,2,5,6,7 - G,N
Cerastium ligusticum Viv. ! - T scap - W Medit. Apenn. - CC: 1,2,3,4,5,6,7,9 - H,K,N

- Cerastium pumilum* Curtis - T scap - Teth.Eur. - R: 4,5,7 - N
- Cerastium scaranii* Ten. ! - H scap - Endem. (C and S Apenn.) - L: 1,6,7 - G
- Cerastium semidecandrum* L. ! - T scap - Eur.Medit. - C: 1,2,3,4 - H,N
- Cerastium siculum* Guss. - T scap - W Medit. - R: 3,4 - B,H; coastal sandy places at the foot of the Ansedonia hill near Feniglia (coll. *Sommier* 1902, FI!) and Uccellina hills in the Maremma park (Arrigoni 2003)
- Cerastium sylvaticum* Waldst. et Kit. ! - H scap - Eur.Medit. - R: 1,2 - L
- Dianthus armeria* L. ! - T scap - Ir.Tur. Europ. - C: 1,2,5,6,7 - L
- Dianthus balbisii* Ser. ! - H scap - C Medit. - R: 1,4 - L; rare in the northern montane sector and on the Uccellina hills in the Maremma park (Arrigoni 2003)
- Dianthus carthusianorum* L. ! - H scap - Eur.Medit. - C: 1,2,5,6,7 - L
- Dianthus monspessulanus* L. ! - H scap - OroEurop. - L: 1,6,7 - L
- Dianthus sylvestris* subsp. *longicaulis* (Ten.) Greuter et Burdet ! - H scap- Endem. (Apennines) - C: 1,2,4,5,6,7 - C,K; the indication of *D. sylvestris* ssp. *sylvestris* from Trasubie (Frignani & al. 2007) is referred here
- Herniaria glabra* L. ! - T scap - Eurosib.Teth. - C: 1,3,4,8 - G,N
- Herniaria hirsuta* L. ! - T scap - Eurosib.Teth. - C: 2,4,5,6 - G,N
- Minuartia hybrida* (Vill.) Schischk. ! - T scap - Teth.Eur. - C: 2,4,5,6,7 - G,H,N
- Minuartia mediterranea* (Link) K. Malý ! - T scap - Medit. - C: 2,3,4,7 - H; localities given in Selvi (2000)
- **Moehringia muscosa* L. - old and unreliable indications from Mt. Amiata at Castel del Piano and S. Fiora, and Prata (Santi in Caruel 1860-64)
- Moehringia pentandra* Gay ! - T scap - Medit. - C: 2,4,6,8 - K
- Moehringia trinervia* (L.) Clairv. ! - H scap - Eurosib.Teth. - C: 1,2,5,6,7 - L
- Moenchia erecta* (L.) P. Gaertn, B. Mey. et Scherb. ! - T scap - Eur.Medit. - C: 2,3,4,5,9 - H
- Paronychia echinulata* Chater ! - T scap - Medit. - R: 2,3,4 - H
- Petrorhagia dubia* (Raf.) G.López & Romo ! - T scap - Medit. - C: 1,2,3,4,7 - H,N
- Petrorhagia prolifera* (L.) P.W. Ball et Heywood ! - T scap - Eur.Medit. - C: 1,2,3,4,5,6,7,8 - G,H,N
- Petrorhagia saxifraga* (L.) Link ! - H caesp - Eur.Medit. - C: 1,2,3,4,5,8,9 - C,K
- Polycarpon tetraphyllum* (L.) L. ! - T scap - Teth.Eur. - C: 2,3,4,5 - H,N
- Sagina apetala* Ard. ! - T scap - Eur.Medit. - C: 2,3,5,8 - H,N
- Sagina maritima* G. Don ! - T scap - Medit.Atl. - L: 3,4 - B
- Sagina procumbens* L. ! - H caesp - Holarct. - R: 1,2,6 - G,N
- Sagina subulata* (Sw.) C. Presl ! - H caesp - Eur.OroMedit. - RR: 6 - G; top of Mt. Amiata (HS 0128; Selvi 1996); the indication of *S. glabra* (Willd.) Fenzl from Mt. Amiata (Selvi 1996) is to be referred here
- Saponaria ocymoides* L. ! - H scap - Eur.Medit. - R: 1,7 - C,I
- Saponaria officinalis* L. ! - H scap - Eur.Medit. - CC: 1,2,5,6,7 - G,N
- Scleranthus annuus* L. subsp. *annuus* ! - T scap - Eur.Medit. - C: 1,2,5,6,7 - I,N
- Scleranthus annuus* subsp. *polycarpus* (L.) Thell. ! - T scap - Eur.Medit. - R: 3,8 - I,N
- Scleranthus annuus* subsp. *verticillatus* (Tausch) Arcang. - T scap - Eur.Medit. - R: 1,3 - G,N
- Scleranthus perennis* L. ! - H caesp - Europ. - R: 1,7 - C,G; jasper outcrops in the Farma valley at La Pietra (HS 0136) and Roccatederighi at Colle della Miniera (HS 0135, 1774), and between Mt. Aquilaia and Poggio all'Olmo (HS 3010)

- Silene armeria* L. ! - T scap - Europ. - R: 1,6,8 - G
- Silene badaroi* Breistr. - H ros - Endem. (Ligurian-Tyrrhenian) - L: 3,4 - B; coast of Punta Ala, Scarlino (HS 2473) and Uccellina in the Maremma park (Arrigoni 2003)
- Silene canescens* Ten. ! - T scap - CW Medit. - L: 3,4 - B
- Silene conica* L. ! - T scap - Teth.Eur. - RR: 3 - N; sandy fields north of Marina di Grosseto at the edge of Diaccia Botrona near Canova (HS 2852)
- Silene coronaria* (L.) Clairv. ! - H scap - Europ. - RR: 8 - L; broadleaf woods in the upper valley of the river Lente in the area of Vitozza near Sorano (HS 0106, 2144; Selvi 2002)
- Silene dioica* (L.) Clairv. ! - H scap - Eurosib. - L: 6,7 - L
- Silene flos-cuculi* (L.) Greuter et Burdet ! - H scap - Eurosib. - C: 1,2,5,6,7 - G,L
- Silene gallica* L. ! - T scap - Teth.Eur. - C: 1,2,3,4,5,8 - H,N
- Silene italica* (L.) Pers. ! - H ros - Eur.Medit. - C: 1,2,3,4,5,6,7,8 - G,L
- Silene latifolia* subsp. *alba* (Mill.) Greuter et Burdet ! - H bienn - Eurosib. - CC: 1,2,3,4,5,6,7 - G,N
- Silene muscipula* L. - T scap - Medit. - RR: 7 - I; fields near Ripa di Selvena and Mt. Civitella (SI!; Frignani & al. 2008)
- Silene nemoralis* Waldst. et Kit. ! - H ros - Teth.Eur. - R: 1 - L; area of Cornate-Fosini near Gerfalco (Frignani & al., 2004)
- Silene nocturna* L. ! - T scap - Teth. - L: 3,4,5 - B,K
- Silene nutans* L. ! - H ros - Eurosib. - R: 1,6 - L
- Silene otites* (L.) Wibel ! - H ros - Eurosib.Teth. - L: 3,4 - B
- Silene paradoxa* L. ! - H ros - Europ. - R: 1,5,6 - G,I
- Silene sedoides* Poir. - T scap - Medit. - 4; indicated from the rocky coast of Talamone (Arrigoni 2003)
- Silene viridiflora* L. ! - H ros - Bor.Medit. - R: 1,2,8 - L
- Silene vulgaris* subsp. *angustifolia* (Mill.) Hayek ! [= *S. vulgaris* subsp. *tenoreana* (Colla) Soldano et F. Conti] - H scap - Teth.Eur. - CC: 1,2,3,4,5,7,8,9 - G,N
- Silene vulgaris* (Moench) Garcke subsp. *vulgaris* ! - H scap - Bor.Teth. - C: 1,2,3,5,6,7 - G,N
- Spergularia arvensis* L. ! - T scap - Bor.Teth. - R: 2,4 - N
- Spergularia bocconei* (Scheele) Graebn. ! - T scap - Medit.Atl. - R: 1,2,3,4 - H,N
- Spergularia media* (L.) C. Presl ! - Ch suffr - Subcosmop. - L: 3,4 - B
- Spergularia rubra* (L.) J. et C. Presl ! - T scap - Holart.Paleotrop. - C: 2,3,4,5,6 - N
- Spergularia salina* J. et C. Presl ! - T scap - Holarct. - L: 3,4 - N
- Stellaria aquatica* (L.) Scop. ! - H scap - Eurosib. - 1 - L; rare along the banks of the Ombrone river near Monte Antico and between Sasso d'Ombrone and Paganico (HS 2964, 3030)
- Stellaria holostea* L. ! - H scap - Eurosib. - R: 1,7 - L
- Stellaria media* (L.) Vill. ! - T rept - Holart.Paleotrop. - CC: 1,2,3,4,5,6,7,9 - N; the indication of *Holosteum umbellatum* L. from the Maremma park (Arrigoni 2003; FI!) is referred here
- Stellaria neglecta* Weihe - T scap - Eur.Medit. - R: 1,7 - N
- Stellaria nemorum* subsp. *montana* (Pierrat) Berher ! - H scap - Europ. - L: 6,7,8 - L
- Stellaria pallida* (Dumort.) Crép. - T scap - Eur.Medit. - R: 4,7 - N
- Velezia rigida* L. - T scap - Teth. Pont. - RR: 5 - G; dry shrub communities in the Trasubbie river bed (SI!; Frignani & al. 2007b)

AMARANTHACEAE

- Amaranthus albus* L. - T scap - Naturalized - C: 1,2,4 - N
- Amaranthus blitoides* S. Watson ! - T scap - Naturalized - R: 2 - N; along the Bruna river near Braccagni (HS 1930)
- Amaranthus blitum* L. - T scap - Holart.Paleotrop. - 1 - N; indicated from the Farma valley (Chiarucci & al. 1993)
- Amaranthus cruentus* L. - T scap - Naturalized - R: 1,4 - N
- Amaranthus deflexus* L. - T scap - Naturalized - RR:1 - N; indicated from the Farma valley (Chiarucci & al. 1993)
- Amaranthus graecizans* L. - T scap - MidEur.Medit. - R: 4,5 - N
- Amaranthus retroflexus* L. - T scap - Naturalized - CC: 1,2,3,4,6,8 - N
- Arthrocnemum fruticosum* (L.) Moq. - Ch succ - Subcosmop. - L: 3,4 - B
- Arthrocnemum macrostachyum* (Moris.) Moris ! - Ch succ - Medit. - R: 3,4 - B
- Atriplex halimus* L. ! - P caesp - Medit. - RR: 3 - B; Botrona (Sforzi & Selvi 1999) and near Puntone di Scarlino in salt marsh habitats behind the sandy beach (HS 2777)
- Atriplex patula* L. ! - T scap - Eurosib.Teth. - C: 1,2,3,4,5 - B,N
- Atriplex portulacoides* L. ! - Ch frut - Eurosib.Teth. - L: 3,4 - B
- Atriplex prostrata* ! Boucher ex DC. - T scap - Holarct. - L: 3,4 - L,N
- ? *Atriplex tatarica* L. - T scap - Eurosib.Medit. - 3? an old indication from Castiglione d. Pescaia (Santi in Caruel 1860-64 sub *A. laciniata*); to be confirmed
- Beta vulgaris* subsp. *maritima* (L.) Arcang. ! - T scap - Medit.Atl. - L: 3 - B
- Beta vulgaris* L. subsp. *vulgaris* - H scap - occasionally Naturalized - C: 2,3,4,9 - N
- Chenopodium album* L. ! - T scap - Holart.Paleotrop. - C: 1,2,4,5,7 - N
- Chenopodium ambrosioides* L. ! - T scap - Naturalized - R: 5 - N; river beds of Albegna (HS 0186) and Ombrone between Campagnatico and Arcille (HS 3035)
- ? *Chenopodium bonus-henricus* L. - H scap - Bor. - 6? once observed on the top of Mt. Amiata (Selvi 1996) and perhaps occasional; to be confirmed
- ? *Chenopodium hybridum* L. - T scap - Bor.Teth. - 2? an old indication from the area of Castiglione d. Pescaia (Santi in Caruel 1860-64)
- Chenopodium murale* L. ! - T scap - Subcosmop. - L: 2,3 - N
- Chenopodium opulifolium* Schrad. ex W.D.J.Koch et Ziz - T scap - Subcosmop. - 2,4 - N
- Chenopodium polyspermum* L. ! - T scap - Eurosib. - R:1,2 - N
- Chenopodium urticum* L. - T scap - Eurosib.Teth. - RR: 3 - N; Diaccia Botrona (Sforzi & Selvi 1999)
- Halocnemum strobilaceum* (Pallas) M.Bieb. - Ch succ - Teth. - 3: RR - B; only known from the salt marsh at the mouth of the Ombrone river (FI!; Arrigoni 2003)
- Polycnemum arvense* L. ! - T scap - Eur.Medit. - RR: 2 - N; fields around Sticciano scalo (HS 2030)
- ? *Salicornia dolichostachya* Moss - T scap - Europ. - 3? collected in the salt marsh of Diaccia Botrona (Sforzi & Selvi 1999) and in the lagoon of Orbetello (Andreucci 2004), but very rare and apparently incostant; its presence in the coastal lagoons of Maremma may be occasional and due to seeds sporadically dispersed by migratory birds (M. Iberite *pers. com.*)
- Salicornia emerici* Duval - Jouve - T scap - W Medit. - 4 - B; Burano lake (Angiolini & al. 2002) and Orbetello lagoon (Andreucci 2004)

- Salicornia patula* Duval-Jouve ! - T scap - Medit.Atl. - L: 3,4 - B
Salsola kali subsp. *ragus* (L.) Čelak ! - T scap - Subcosmop. - L: 3,4 - B
Salsola soda L. ! - T scap - Bor.Teth. - L: 3,4 - B
Sarcocornia perennis (Mill.) A.J. Scott ! - Ch succ - Medit.Atl. - L: 3,4 - B
Suaeda maritima (L.) Dumort. ! - T scap - Cosmop. - L: 3,4 - B
 ?*Suaeda vera* J.F. Gmel. - NP - Cosmop. - 4?; an old indication from Talamone (Baroni 1902), not supported by later observations

AIZOACEAE

- Carpobrotus acinaciformis* (L.) L. Bolus - Ch suffr - Naturalized - R: 3,4 - B,N; indicated from the reserve of Burano (Angiolini & al. 2002) and observed in a few other coastal localities (Pt. Ala); still not widespread in Maremma
Mesembryanthemum nodiflorum L. ! - T scap - Medit.Sahar. - RR: 3 - B; saline belt of the rocky coast between Punta Rocchette and Punta Ala (HS 0005)

MOLLUGINACEAE

- Corrigiola litoralis* L. ! - T scap - Medit.Atl. - RR: 1,2 - E; wet habitats near Ampio in the area of Tirli (HS 2061) and small lake of Montieri (HS 2609)

MONTIACEAE

- Montia fontana* subsp. *chondrosperma* (Fenzl) Walters ! (= *Montia minor* C.C. Gmel.) - I rad - Subcosmop. - RR: 2,9 - E; small lake of Marruchetone near Capalbio (HS 2651; Lastrucci & al. 2007); and area of Roccastrada in the acid pozzines of the Lattaia cork-oak woodland (HS 3126)

PORTULACACEAE

- Portulaca nitida* (Danin et H. et G. Baker) Ricceri et Arrigoni - T scap - Subcosmop. - R: 2 - N; Tenuta Acquisti near Braccagni (coll. *Corradi* 1946, FI!; Ricceri & Arrigoni 2000)
Portulaca oleracea L. - T scap - Subcosmop. - CC: 1,2,3,4,5,9 - N

CACTACEAE

- Opuntia ficus-indica* (L.) Mill. - P succ - Naturalized - R: 2,3,4,9 - N,C; locally escaped from culture and naturalized in dry, rocky habitats especially along the coast (Pt. Ala, Talamonaccio and other places)

CORNACEAE

- Cornus mas* L. ! - P caesp - Medit.Pont. - C: 1,2,4,5,6,7,8,9 - L
Cornus sanguinea L. ! - P caesp - Europ. - CC: 1,2,3,4,5,6,7,8,9 - L

BALSAMINACEAE

- Impatiens noli-tangere* L. - T scap - Holarct. - RR: 6 - N; collected only once on Mt. Amiata (coll. *Negri* & *Corradi* 1936, FI!)

PRIMULACEAE

- Anagallis arvensis* L. ! - T rept - Teth.Eur. - C: 1,2,3,4,5,6,7,9 - H,N
Anagallis foemina Mill. ! - T rept - Subcosmop. - C: 1,2,4,7,9 - H,N
Anagallis minima (L.) E.H.L.Krause ! - T scap - Eur.Medit. - RR: 2 - E; acid pozzines in the open cork-oak woods of Mt. Leoni and Bagnolo near Civitella M.ma (Selvi 1998)
Anagallis parviflora Hoffmanns. et Link ! - T rept - Medit. - R: 2,4,9 - E; humid places in the area of Capalbio and Roccastrada (Selvi 2000, Lastrucci & al. 2007)
Asterolinon linum-stellatum (L.) Duby ! - T scap - Medit.Macar. - C: 1,2,3,4,9 - H
Coris monspeliensis L. ! - T scap - Medit. - R: 2,3,4,9 - K; dry, sandy places on the coast around Castiglione d. Pescaia, especially near Roccamare, and rocky garrigues on the calcareous hills near Capalbio (Mt. Nebbiello) and Sticciano (Selvi & Fiorini 1994)
Cyclamen hederifolium Aiton ! - G bulb - MidEur.Medit. - CC: 1,2,4,5,6,8 - K,L
Cyclamen repandum Sm. ! - G bulb - Medit. - CC: 1,2,3,4,5,6,7,8,9 - K,L
Hottonia palustris L. ! - I rad - Europ. - RR: 1(9) - E; only known from the small lake of Montieri (HS 2500; Selvi & Stefanini 2005); disappeared from Lagaccioli near Capalbio where it was collected in the last century (Lastrucci & al. 2007)
Lysimachia nummularia L. ! - H scap - Europ. - RR: 2 - L; humid woods along Fosso Righiere near the railway station of Roccastrada (HS 1210, 1920)
Lysimachia punctata L. ! - H scap - Mid Europ. - R: 1,2,6 - G
Lysimachia vulgaris L. ! - H scap - Bor. - C: 1,2,3,4,9 - G
Primula vulgaris Huds. ! - H ros - Eur.OroMedit. - C: 1,2,5,6,7,8 - L
Samolus valerandi L. ! - H scap - Subcosmop. - C: 1,2,3,4,5,9 - E

ERICACEAE

- Arbutus unedo* L. ! - P caesp - Medit. - CC: 1,2,3,4,5,9 - K
Calluna vulgaris (L.) Hull ! - NP - Bor. - L: 1,2,4 - K,L
Erica arborea L. ! - P caesp - Paleotrop.Teth. - CC: 1,2,3,4,5,8,9 - K
 **Erica carnea* L. - an old, unreliable indication from Talamone and Mt. Argentario (Santi in Caruel 1860-64)
Erica multiflora L. ! - NP - CW Medit. - L: 2,3,4 - K; macchia on coastal, sandy soil and rocky calcareous hills near Gavorrano on the slopes of Mt. Calvo
Erica scoparia L. ! - P caesp - W Medit.Atl. - C: 1,2,3,4,5,6,8,9 - K
Monotropa hypopitys L. ! - G par - Eurosib. - R: 1,6 - L
Pyrola minor L. ! - H ros - Holarct. - L: 6 - L; beech woods of Mt. Amiata (Selvi 1996)
 ?*Vaccinium myrtillus* L. - Ch frut - Bor. - 6? observed in 1970 on the top of Mt. Amiata (Arrigoni *pers. comm.*), this species has never been observed again in this area and needs confirmation

RUBIACEAE

- Asperula cynanchica* L. ! - H scap - Teth.Eur. - C: 1,2,4,5,7 - G
Asperula laevigata L. ! - H scap - Medit. - R: 2,7 - L
Crucianella latifolia L. ! - T scap - Medit. - R: 4 - K; garrigues on the dry, calcareous hills behind Orbetello (coll. *Sommier* 1892, FI!; HS 2678)
Crucianella maritima L. ! - Ch suffr - CW Medit. - L: 3,4 - B
Cruciata glabra (L.) Ehrend. ! - H scap - Eur.Medit. - CC: 1,2,4,5,6,7,8,9 - G,L,N

- Cruciata laevipes* Opiz ! - H scap - Eur.Medit. - C: 1,2,3,4,5,6,7,8 - G,N
Galium aparine L. - T scap - Holarct. - C: 1,2,3,4,5,6,7,8,9 - N
Galium corrudifolium Vill. ! - H scap - Medit. - C: 1,2,4,5,9 - G
Galium debile Desv. - H scap - Eur.Medit. - R: 4,9 - E
Galium divaricatum Lam. ! - T scap - Eur.Medit. - C: 2,5,6,7 - H
Galium elongatum C. Presl ! - H scap - Eurosib.Teth. - C: 2,3,4,9 - E
Galium lucidum All. ! - H scap - MidEur.Medit. - R: 5,6,7 - G
Galium mollugo subsp. *erectum* Syme ! - H scap - Eur.Medit. - C: 1,2,3,4,6,7,8 - N
Galium mollugo L. subsp. *mollugo* ! - H scap - Eur.Medit. - C: 1,2,3,6 - L
Galium murale (L.) All. ! - T scap - Medit. - R: 2,4 - H
Galium odoratum (L.) Scop. ! - G rhiz - Bor. - L: 6,7,8 - L
Galium palustre L. ! - H scap - Eurosib.Medit. - 1,2,3,6,9 - E
Galium parisiense L. ! - T scap - Eur.Medit. - C: 1,2,3,4 - H
Galium rotundifolium L. - H scap - Eur.OroMedit. - R: 6,7 - L
Galium spurium L. ! - T scap - Subcosmop. - R: 2,3,6 - N
? *Galium tricorntutum* Dandy - T scap - Eur.Medit. - 2? indicated from Montemassi and generically from Maremma (Caruel 1860-64 sub *G. tricorne* With.) but recent records are lacking; in need of confirmation
Galium verum L. ! - H scap - Bor. - C: 1,2,6,7 - G
Rubia peregrina L. ! - P lian - Medit.Atl. - CC: 1,2,3,4,5,7,8,9 - K,L
? *Rubia tinctorum* L. - H scap - Naturalized - ?; indicated from "Maremma bassa" (Santi in Caruel 1860-64); recent records are lacking and the specie needs confirmation
Sherardia arvensis L. - T scap - Eur.Medit. - CC: 1,2,3,4,5,7,8,9 - G,N
Theligonum cynocrambe L. ! - T scap - Medit. - C: 2,3,4,9 - C
Valantia muralis L. ! - T scap - Medit. - R: 2,4 - H

GENTIANACEAE

- Blackstonia acuminata* (W.D.J. Koch et Ziz) Domin - T scap - Medit.Atl. - R: 3 - E; hills and coastal area of the Maremma park (FI!; Arrigoni 2003)
Blackstonia perfoliata (L.) Huds ! - T scap - Eur.Medit. - C: 1,2,3,4,5,7,9 - G,H
Centaurium erythraea Rafn. subsp. *erythraea* ! - H bienn - Teth.Eur. - C: 1,2,3,4,5,6,7,8,9 - G
Centaurium erythraea subsp. *rumelicum* (Velen.) Melderis ! - H bienn - Medit. - R: 3,9 - G
Centaurium maritimum (L.) Fritsch ! - T scap - Medit. - R: 2,3 - H
Centaurium pulchellum (Sw.) Druce ! - T scap - Holart.Paleotrop. - R: 5,9 - E
Centaurium spicatum (L.) Fritsch ! - T scap - Medit.Atl. - R: 3,4,9 - E
Centaurium tenuiflorum subsp. *acutiflorum* (Schott) Zeltner ! - T scap - Medit. - C: 3,8 - N
Centaurium tenuiflorum (Hoffmanns. et Link) Fritsch subsp. *tenuiflorum* - T scap - Medit. - R: 3 - N; indicated from the coastal area of the Maremma park (Arrigoni 2003)
Cicendia filiformis (L.) Delarbre ! - T scap - Medit.Atl. - R: 2,9 - E; pozzines near Capalbio (Sommier 1892b) and relatively frequent in the garrigues and open corkoak woods near Roccastrada and Civitella M.ma (Selvi 1998)
* *Gentiana campestris* (L.) Börner - and old, unreliable indication from the mountains near Prata and Boccheggiano (Savi in Caruel 1860-64)

APOCYNACEAE

Vinca major L. - Ch rept - CW Medit. - C: 1,2,3,4,5,7 - N

Vinca minor L. ! - Ch rept - Eur.Medit. - C: 1,5,8 - L

Vincetoxicum hirundinaria Medik. ! - H scap - Eurosib.Medit. - C: 1,2,4,6,7 - L

BORAGINACEAE

Anchusa azurea Mill. ! - H scap - Teth.Eur. - C: 1,2,3,4,5,7,8,9 - N

Anchusa undulata subsp. *hybrida* (Ten.) Bég. ! - H bienn - Eur.Medit. - C: 2,3,4,5,6,7,8,9 - N

Anchusella cretica (Mill.) Bigazzi, E. Nardi et Selvi ! - T scap - C Medit. - R: 7,8,(9) - G; dry calcareous pastures on Mt. Penna and Civitella, and near Sorano on “tufo” (Selvi 1995, Viciani & al. 2004, Frignani & al. 2008); apparently disappeared from Nunziatella near Burano (Sommier 1892a sub *Lycopsis variegata* L., FI!)

Borago officinalis L. ! - T scap - Medit. - CC: 1,2,3,4,5,7,8,9 - N

Buglossoides arvensis (L.) I.M. Johnst. ! - T scap - Eurosib.Teth. - C: 1,2,3,4,5,7 - N

Buglossoides purpureo-caerulea (L.) I.M. Johnst. ! - H scap - Eur.Medit. - C: 1,2,4,5,6,7,8,9 - L

Cerintho major L. ! - T scap - Medit. - C: 2,3,4,5 - N

?*Cynoglossum columnae* Ten. - H bienn - Medit. - ? indicated from Mt. Amiata (Personé 1908, Pignatti 1982) and more recently from Mt. Labbro (Baldini 1996); herbarium collections of this species from Tuscany are lacking and its presence is doubtful

Cynoglossum creticum Mill. ! - H bienn - Eur.Medit. - CC: 1,2,3,4,5,6,7,8,9 - N

Cynoglossum montanum L. ! - H bienn - Eur.Medit. - R: 1,6,7 - G

Echium italicum L. ! - H bienn - Teth.Eur. - CC: 1,2,3,4,5,7,9 - N

Echium parviflorum Moench ! - T scap - Medit. - R: 4 - N; Uccellina hills, Talamone and Ansedonia; the record of *E. arenarium* Guss. from the Uccellina hills in the Maremma park (Arrigoni 2003; FI!) is to be referred here

Echium plantagineum L. ! - H bienn - Eur.Medit. - CC: 1,2,3,4,5,7,8,9 - N

Echium vulgare L. ! - H bienn - Eurosib.Teth. - C: 1,2,4,5,6,7,9 - N

Heliotropium europaeum L. ! - T scap - Eur.Medit. - CC: 1,2,3,4,5,7,8,9 - N

?*Lappula squarrosa* (Retz.) Dumort. - T scap - Teth.Eur. - 1,5?; old indications from Montieri and Montemerano (Santi in Caruel 1860-64 sub *Echinosperrum lappula* Lehm.), not supported by herbarium collections; needs confirmation

Lithospermum officinale L. ! - H scap - Eurosib.Teth. - RR: 1 - L; Farma valley near Belagaio (HS 0039)

Myosotis arvensis (L.) Hill ! - T scap - Eur.Medit. - C: 1,2,3,4,5,6,7,8,9 - N

Myosotis decumbens subsp. *florentina* Grau ! - H scap - Endem. (Apennines) - L: 1,6,7,8 - L

Myosotis discolor Pers. ! - T scap - W Medit.Atl. - R: 2,4,8 - H

Myosotis laxa subsp. *caespitosa* (C.F. Schultz) Nordh. ! - T scap - Bor.Teth. - R: 1,2,8,9 - E

Myosotis nemorosa Besser ! - H bienn - Eurosib.Medit. - RR: 7 - E; wet meadow between Mt. Aquilaia and Poggio all’Olmo (HS 3011)

Myosotis ramosissima Rochel ex Schult. ! - T scap - Teth.Eur. - CC: 1,2,3,4,5,6,7,8,9 - H,N

Myosotis scorpioides L. ! - H scap - Eurosib. - R: 1,6,7 - E

Myosotis sicula Guss. ! - T scap - Medit. - RR: 1?,2 - E; only known from a wet site

- in the corkoak wood of Venaie near Roccastrada (HS 3108); the indication from Bosco del Belagaio in the Farma valley (Morrocchi in Re.Na.To. 2005) is based on an incomplete collection (SI!) of uncertain identity possibly belonging to *M. laxa* ssp. *caespitosa*
- Myosotis sylvatica*** Hoffm. ! - H scap - Bor.Teth. - R: 1,6,7 - L
- Neatostema apulum*** (L.) I.M. Johnst. ! - T scap - Medit. - R: 4,9 - H
- Onosma echioides*** (L.) L. ! - Ch suffr - Apenn.Balk. - R: 7 - I; dry places on clayey-calcareous soil around Mt. Amiata in the area of Seggiano (HS 1966, 2229)
- Pulmonaria hirta*** L. ! - H scap - Alp. Apenn. - C: 1,6,7,8 - L
- **Solenanthes apenninus* (L.) Fisch. et C.A. Mey. - old indications from the mountains of Prata and Mt. Labbro (Santi and Savi in Caruel 1860-64, see also Pignatti 1982), but never confirmed and not supported by herbarium collections; the species is most probably absent from Tuscany
- Symphytum bulbosum*** K.F. Schimp. ! - G rhiz - Eur.Medit. - R: 1,2 - N;
- Symphytum tuberosum*** subsp. *angustifolium* (A. Kern.) Nyman ! - G rhiz - Mid Europ. - C: 1,2,5,6,7,8,9 - L

CONVOLVULACEAE

- Calystegia sepium*** (L.) R.Br. ! - H scand - Subcosmop. - C: 2,3,4,5,8,9 - N
- Calystegia soldanella*** (L.) R.Br. ! - G rhiz - Subcosmop. - L: 3,4 - B
- Convolvulus arvensis*** L. ! - G rhiz - Eurosib.Teth. - CC: 1,2,3,4,5,7,8 - N
- Convolvulus cantabrica*** L. ! - H scap - Eur.Medit. - C: 1,2,3,4,5,7,9 - G
- Convolvulus elegantissimus*** Mill. ! - H scand - Medit. - L: 4 - K,N
- ?*Convolvulus althaeoides* L. - H scand - Medit. - 9?; old indications of this species (with var. *pedatus* Chois.) from Talamone, Talamonaccio, Monteti (Santi in Caruel 1860-64) and Capalbio (Sommier in Baroni 1901) are not confirmed and are likely to belong to *C. elegantissimus*
- **Convolvulus cneorum* L. - an old indication from Poggio delle Vedette near Massa Marittima (Santi in Caruel 1860-64), where it does not occur; it is known from Mt. Argentario
- Convolvulus siculus*** L. - T scap - Medit.Macar. - RR: 4 - C; coastal hills of Uccellina at Cala di Forno (FI!; Arrigoni 2003)
- Cressa cretica*** L. ! - H scap - Subcosmop. - RR: 3,4 - B; very rare at Cala Martina in the coast of Scarlino (HS 2472, 2730, 2735) and near the mouth of river Albegna (HS 2715; Selvi & Cecchi 2007)
- Cuscuta campestris*** Yunck. - T par - Naturalized (Bor.) - RR: 3 - N; Diaccia Botrona (Selvi & Sforzi 1999) and coastal plain of Maremma park (Arrigoni 2003)
- Cuscuta epithimum*** (L.) L. ! - T par - Eurosib.Teth. - C: 1,6,7,8,9 - N
- ?*Cuscuta europaea* L. - T par - Eurosib.Teth. - 6?; indicated from Mt. Amiata (Selvi 1996) but needing confirmation
- Cuscuta planiflora*** Ten. ! - T par - Teth.Eur. - C: 2,4,5 - G,N
- Cuscuta scandens*** subsp. *cesatiana* (Bertol.) Greuter et Burdet ! - T par - Eur.Medit. - L: 3,4,5 - B

SOLANACEAE

- Atropa bella-donna*** L. ! - H scap - MidEur. - R: 2,6,7 - N

- Datura innoxia*** Mill. - T scap - Naturalized - R: 2 - N
Datura stramonium L. - T scap - Naturalized - C: 2,3,4,5 - N
Hyoscyamus albus L. ! - H bienn - Medit.Macar. - R: 3,4 - N; Diaccia Botrona near Casa Ximenes (HS 1672; Sforzi & Selvi 1999) and walls of Talamone (HS 2997)
Hyoscyamus niger L. ! - H bienn - Eurosib.Teth. - RR: 2 - N; Sticciano (HS 1673)
Lycium europaeum L. - NP - Naturalized - RR: 4; surroundings of Talamone and Capo d'Uomo in the Uccellina hills (Arrigoni 2003), and area of Capalbio and Orbetello (coll. Sommier 1892, FI!)
Salpichroa origanifolia (Lam.) Thell. - Ch frut - Naturalized - 3 - N; locally abundant around Castiglione d. Pescaia (Sforzi & Selvi 1999)
Solanum dulcamara L. ! - NP - Eurosib.Teth. - C: 1,2,3,4,5,8,9 - L,N
Solanum nigrum L. - T scap - Cosmop. - C: 2,3,4,5,7,9 - N
Solanum villosum Mill. - T scap - Teth.Eur. - RR: 1 - N; indicated from the Farma valley (Chiarucci & al. 1993 sub *S. luteum* Mill.)

OLEACEAE

- Fraxinus angustifolia*** subsp. ***oxycarpa*** (Willd.) Franco et Rocha Afonso ! - P scap - Eur.Medit. - C: 1,2,3,4,5,9 - L
Fraxinus excelsior L. ! - P scap - Eur. Pont. - R: 7 - L; woods in the upper Siele valley and area of Mt. Civitella near Castellazzara
Fraxinus ornus L. ! - P scap - MidEur.Medit. - CC:1,2,3,4,5,6,7,8,9 - K,L
Ligustrum vulgare L. - NP - Europ. - C: 1,2,5,8,9 - L
Olea europaea L. - P caesp - Medit.Macar. - L: 3,4 - K; the olive tree is often found as escaped from culture in evergreen woods, garrigues and macchias; however, it could be native in the dryer and warmer places of the coast, such as, for example, between Cala Violina and Cala Martina in the area of Scarlino
Phillyrea angustifolia L. ! - P caesp - Medit. - CC: 1,2,3,4,8,9 - K
Phillyrea latifolia L. ! - P caesp - Medit. - CC: 1,2,3,4,5,8,9 - K,L

PLANTAGINACEAE

- Antirrhinum latifolium*** Mill. ! - Ch frut - W Medit. - R: 2,3,4,9 - C
Antirrhinum majus L. - Ch frut - CW Medit. - R: 1,4,8; indicated from the old urban walls of Pitigliano and Massa Marittima (Lisci 1997) and from the Uccellina hills (Arrigoni 2003); also the hybrid *A. majus* L. x *A. latifolium* is indicated from the latter area
Callitriche brutia Petagna ! - I rad - Medit.Atl. - R: 2,3,9 - D; small lakes near Capalbio (coll. Sommier sub *C. pedunculata* DC., FI!; Sommier 1892b, Lastrucci & al. 2007), coastal plain of the Maremma park (Arrigoni 2003) and area of Roccastrada in a wet site in the Venaie corkoak wood (HS 3086)
Callitriche hamulata Kütz. - I rad - Atl. Mid Europ. - RR: 4,9 - D; small lakes near Capalbio (Lagaccioli and Marruchetone; Lastrucci & al. 2007)
Callitriche obtusangula Le Gall ! - I rad - CW Medit.Atl. - R: 1,2,9 - D
[?]***Callitriche palustris*** L. - I rad - Bor. - 9?; indicated from the area of Capalbio (Guazzi & Tomei 1993), but not confirmed (Lastrucci & al. 2007)
Callitriche stagnalis Scop. ! - I rad - Holart.Paleotrop. - R: 2,9 - D; wet sites near Capalbio (Sommier 1892b) and area of Mt. Leoni (Selvi 1998)

- Chaenorhinum minus* (L.) Lange ! - T scap - Europ. - C: 2,5,7 - N
- Cymbalaria muralis* P.Gaertn., B.Mey. et Scherb ! - H scap - Teth.Eur. - C: 1,5,7,8 - C;
primary populations are restricted to rocky limestone outcrops in the area of Mt.
Labbro and on travertine rocks near Saturnia
- Digitalis ferruginea* L. ! - H scap - Apenn.Balk. - L: 2,7,8 - G
- Digitalis lutea* L. ! - H scap - MidEur. - R: 1,7 - L
- Digitalis micrantha* Roth ! - H scap - Endem. (Sardinia, Corsica and Apennines) - C:
1,2,5,6,7,8 - L
- Globularia alypum* L. ! - Ch frut - Medit. - L: 4,9 - K
- Globularia bisnagarica* L. ! - H scap - Europ. - C: 1,2,4,5,7,9 - G
- Gratiola officinalis* L. ! - H scap - Eurosib. - R: 2,9 - E
- Kickxia commutata* (Bernh. ex Rchb.) Fritsch ! - T scap - Medit.Macar. - C: 2,3,5 - N
- Kickxia elatine* (L.) Dumort. subsp. *elatine* ! - T scap - Eur.Medit. - R: 3 - N
- Kickxia elatine* subsp. *crinita* (Mabille) Greuter ! - T scap - Teth.Eur. - C: 3,4 - N
- Kickxia spuria* (L.) Dumort. ! - T scap - Eur.Medit. - C: 2,3,5,9 - N
- Linaria cossonii* Barratte ! - H scap - C Medit. - R: 2,3,4,9 - K;
- Linaria pelissariana* (L.) Mill. ! - T scap - Medit.Atl. - R: 2,7 - H
- Linaria purpurea* (L.) Mill. ! - H scap - Endem. (Apennines and Siculo-Apulian area)
- R: 1,7 - C
- Linaria simplex* (Willd.) DC. - T scap - Teth. - RR: 4 - H; Maremma park in the
Uccellina hills (Campo dei Cavalleggeri, FI; Arrigoni 2003)
- Linaria vulgaris* Mill. ! - H scap - Bor. - CC: 1,2,3,4,5,6,7,8,9 - N
- Misopates orontium* (L.) Raf. ! - T scap - Teth.Eur. - C: 1,2,3,5 - H
- Pseudolysimachion barrelieri* (Roem. et Schult.) Holub ! - H rept - MidEur.Pont. - R: 1,2,5 - G
- Rhinanthus alectorolophus* (Scop.) Pollich ! - T scap - MidEur. - L: 6,7 - G
- Rhinanthus minor* L. ! - T scap - Bor. - L: 1,6,7 - G
- Plantago afra* L. ! - T scap - Eur.Medit. - C: 2,3,4,5,9 - H
- Plantago arenaria* Waldst. et Kit. - T scap - Eurosib.Teth. - RR: 4 - B; Burano lake
(Angiolini & al. 2002 sub *P. indica* L.)
- Plantago bellardii* All. ! - T scap - Eur.Medit. - C: 2,3,4,5 - H
- Plantago cornutii* Gouan - H ros - W Medit.Eur. - RR: 4 - B; Burano lake (Angiolini & al. 2002)
- Plantago coronopus* L. ! - T scap/H bienn - Medit.Atl. - CC: 1,2,3,4,5,9 - B,N; extremely
variable in size and habit (annual to apparently perennial)
- Plantago holosteum* Scop. ! - Ch suffr - MidEur. - 1 - G; serpentine outcrops near
Roccatederighi and Casenovole in the Merse valley (Fosso Lescone)
- Plantago lagopus* L. ! - T scap - Eur.Medit. - C: 2,4,7,9 - H
- Plantago lanceolata* L. - H ros - Eurosib.Teth. - CC: 1,2,3,4,5,6,7,8,9 - G,N
- Plantago major* L. subsp. *major* ! - H ros - Cosmop. - C: 1,2,3,4,5,6,7,8,9 - N
- Plantago major* subsp. *intermedia* (Gilib.) Lange - H ros - Eur.Medit. - R: 1,3,4 - N
- Plantago maritima* L. ! - H ros - Europ. - L: 1,2,5,7 - G
- ?*Plantago media* L. - H ros - Eurosib. - 2?; indicated from the Accesa lake (Rizzotto 1982)
but here not observed later
- Plantago weldenii* Rchb. - T scap - Medit.Atl. - RR: 4; indicated from the Burano
reserve (Angiolini & al. 2002 sub *P. coronopus* subsp. *commutata* (Guss.) Pilger); the
distinction from the annual forms of *P. coronopus* is often uncertain

- Veronica acinifolia* L. ! - T scap - Eur.Medit. - R: 1,5,7 - G
Veronica agrestis L. - T scap - Eur.Medit. - R: 1,4 - N; indicated from the Farma valley (Bergman in Chiarucci & al. 1993) and the Uccellina hills (Arrigoni 2003)
Veronica anagallis-aquatica L. ! - H scap - Subcosmop. - C: 1,2,3,4,5,7,8,9 - E
Veronica anagalloides Guss. ! - T scap - Teth.Eur. - R: 3,4,9 - E
Veronica arvensis L. ! - T scap - Teth.Eur. - C: 1,2,3,4,5,6,7,8,9 - N
Veronica beccabunga L. ! - H rept - Holart.Paleotrop. - C: 2,3,6,7,8 - E
Veronica chamaedrys L. ! - H scap - Eurosib. - RR: 1 - G; forest edges in the Farma valley along footpath to “Canaloni” (HS 3261)
Veronica cymbalaria Bodard ! - T scap - Eur.Medit. - C: 1,2,4,9 - N
Veronica hederifolia L. ! - T scap - Teth.Eur. - C: 1,2,6,7,9 - L,N
Veronica montana L. ! - H scap - Europ. - R: 2,6,7,8 - L
Veronica officinalis L. ! - H rept - Bor. - C: 1,2,6,7,8 - L
Veronica persica Poir. - T scap - Cosmop. - C: 1,3,4,5,7 - N
Veronica polita Fr. - T scap - Bor.Teth. - R: 2,4,8 - N
Veronica prostrata L. ! - T scap - Eurosib. - R: 1,2,7 - G
Veronica scutellata L. ! - H scap - Bor. - R: 1,9 - E; area of Capalbio (Lastrucci & al. 2007) and small lake of Montieri (HS 2171)
Veronica serpyllifolia L. ! - H rept - Eurosib. - C: 1,2,6,7 - G

SCROPHULARIACEAE

- Scrophularia auriculata* L. ! - H scap - Medit.Atl. - R: 2,8 - E
Scrophularia canina L. ! - H scap - Eur.Medit. - C: 1,5,7,9 - G
Scrophularia nodosa L. ! - H scap - Eurosib. - C: 1,2,6,7,8 - G,N
Scrophularia peregrina L. ! - T scap - Medit. - C: 2,4,8 - N
Scrophularia scopoli Hoppe ! - H scap - MidEur.Pont. - R: 6,7 - G
Scrophularia umbrosa Dumort. ! - H scap - Eurosib. Ir.Tur. - R: 2,5,8 - E
Scrophularia vernalis L. ! - H scap - Eur.Medit. - RR: 7 - L; rocky places on limestone in shady woods on the top of Mt. Civitella (HS 1643) and Mt. Labbro near Podere del Nobili (HS 2230)
Verbascum blattaria L. ! - H bienn - Teth.Eur. - C: 2,4,5 - N
Verbascum boerhaavii L. - H bienn - W Medit. - RR: 4 - N; Uccellina hills in the Maremma park, above Piana dei Cavalleggeri and between Pratini and San Rabano (FI!; Arrigoni 2003)
Verbascum chaixii Vill. ! - H scap - Eurosib. - L: 1,6 - G; Mt. Amiata (Selvi 1996) and Mt. Sassoforte (HS 3048); the indications of *V. nigrum* L. from Mt. Amiata (Selvi 1996) and the Farma valley (Chiarucci & al. 1994) are to be referred here
Verbascum lychnitis L. ! - H bienn - Eur. CE Medit. - R: 7; G Mt. Labbro (HS 1648; Maccherini & al. 1994, Baldini 1996)
 **Verbascum phlomoides* L. - and old indication from Mt. Amiata above Castel del Piano (Santi in Caruel 1860-64), not supported by later findings
Verbascum pulverulentum Vill. ! - H bienn - Eur.OroMedit. - C: 2,6,7,8 - N
Verbascum sinuatum L. ! - H bienn - Medit. Ir.Tur. - C: 2,3,4,5 - N
Verbascum thapsus L. ! - H bienn - Teth.Eur. - C: 1,6,7,8 - N

LAMIACEAE

- Acinos alpinus* subsp. *meridionalis* (Nyman) P.W. Ball ! - Ch suffr - OroMedit. Apenn. - L: 1,6,7 - G,I
- Acinos arvensis* (Lam.) Dandy ! - T scap - Europ. - C: 1,5,6,7 - G
- Ajuga chamaepitys* (L.) Schreb. ! - T rept - Teth.Eur. - C: 1,2,3,5,9 - N
- Ajuga genevensis* L. ! - H scap - Europ. - RR: 8 - L; area of Sorano near S. Quirico in the woods of Vitozza (HS 0716; Selvi 2002; Viciani & al. 2004)
- Ajuga iva* (L.) Schreb. ! - Ch suffr - Medit. - C: 2,4,5 - N
- Ajuga reptans* L. ! - H rept - Eur.Medit. - C: 1,2,5,6,7,8,9 - G,L
- Ballota nigra* subsp. *meridionalis* (Bég.) Bég. ! - H scap - Eur.Medit. - CC: 1,2,3,4,5,6,7,8 - N
- Calamintha ascendens* Jord. ! - H scap - Eur.Medit. - R: 1,2 - L
- Calamintha nepeta* (L.) Savi ! - H scap - Teth. - CC: 1,2,3,4,5,8,9 - G
- Clinopodium vulgare* L. ! - H scap - Holarct. - C: 1,2,5,6,7,8 - G
- Galeopsis angustifolia* Hoffm. ! - T scap - Europ. - C: 1,4,5,6,8 - N
- Galeopsis ladanum* L. - H scap - Eurosib. - R: 1,5,6,7 - N
- Galeopsis pubescens* Besser - T scap - Europ. - R: 1,6 - N
- Galeopsis speciosa* Mill. ! - T scap - Bor. - R: 6,8 - N
- Galeopsis tetrahit* L. ! - T scap - Europ. - R: 5,6 - N
- Glechoma hirsuta* Waldst. et Kit. ! - H rept - MidEur.OroMedit. - 1,7 - G; the indication of *G. hederacea* L. from the Farma valley (Chiarucci & al. 1993) is to be referred here
- ?*Lamium album* L. - H scap - Eurosib. - 6?; indicated from Mt.Amiata (Castel del Piano alla Trinità, Santi in Caruel 1860-64), but never observed in this area
- Lamium amplexicaule* L. ! - T scap - Teth.Eur. - CC: 1,2,3,4,5,6,7,8,9 - N
- Lamium bifidum* Cirillo ! - T scap - CW Medit. - C: 1,2,3,4,5,6,7,8,9 - N
- Lamium garganicum* subsp. *laevigatum* Arcang. ! - H scap - CE Medit. - L: 1,6,7 - L; the indication of *L. galeobdolon* L. from Mt. Labbro (Maccherini & al. 1994; SI!) is to be referred here
- Lamium hybridum* Vill. ! - T scap - Europ. - RR: 2 - N; rare near Sticciano (HS 0734); included in *L. purpureum* L. in Conti & al. (2005) but kept as a separate species in Aeschimann & al. (2004) and Jeanmonod & Gamisans (2007)
- Lamium maculatum* L. ! - H scap - Europ. - C: 1,2,5,6,7,8 - N
- Lamium purpureum* L. ! - T scap - Holarct. - C: 1,2,3,4,5,9 - N
- Lavandula latifolia* Medik. ! - NP - CW Medit. - R: 1,2,7 - K
- Lavandula stoechas* L. ! - NP - Medit. - C: 1,2,3,4,9 - K
- **Leonurus cardiaca* L. - an old indication from Montelaterone (Santi e Savi in Caruel 1860-64), not supported by later findings or herbarium material
- Lycopus europaeus* L. ! - H scap - Eurosib.Teth. - C: 1,2,3,4,5,6,8,9 - E; plants from the coastal habitats, such as those from the mouth of fiumara S. Leopoldo near Marina di Grosseto (HS 1981) show characters of subsp. *menthaefolius* (Mabille) Skalický, a taxon of doubtful taxonomic value
- Marrubium incanum* Desr. ! - H scap - Medit. Balk. - L: 2,7,9 - N
- Marrubium vulgare* L. ! - H scap - Teth.Eur. - C: 1,3,5,7,8 - N
- Melissa officinalis* L. ! - H scap - Teth. - R: 1,4,5,8 - N
- Melittis melissophyllum* L. ! - H scap - Europ. - C: 1,2,5,6,7 - L

- Mentha aquatica* L. ! - H scap - Holarct.Cap. - C: 1,2,3,4,5,8 - E
- ²*Mentha arvensis* L. - H scap - Holarct. - !?; indicated from the Farma valley (Bergman in Chiarucci & al. 1993); needs confirmation
- Mentha longifolia* (L.) Huds. - H scap - Subcosmop. - RR: 6 - G; northern slopes of Mt. Amiata between Seggiano and Vivo (Selvi 1996)
- Mentha pulegium* L. ! - H scap - Teth.Eur. - C: 2,3,4,7,9 - G
- Mentha suaveolens* Ehrh. ! - H scap - Eur.Medit. - C: 1,2,3,5,7,8 - G
- Micromeria graeca* (L.) Benth. ex Rchb. subsp. **graeca** ! - Ch suffr - Medit. - C: 1,2,3,8,9 - K
- Micromeria graeca* subsp. *tenuifolia* (Ten.) Nyman ! - Ch suffr - Medit. - R: 1,2,4,5 - K
- Micromeria juliana* Benth.ex Rchb. ! - Ch suffr - Medit. - R: 1,2,5,9 - K
- **Nepeta cataria* L - an old indication from Montelaterone (Santi & Savi in Caruel 1860-64)
- Origanum vulgare* L. ! - H scap - Eurosib.Teth. - C: 1,2,5,6,7 - G
- Prasium majus* L. ! - Ch frut - Medit. - L: 2,3,4 - C,K
- Prunella laciniata* (L.) L. ! - H scap - Eur.Medit. - C: 1,2,4,7 - G
- Prunella vulgaris* L. ! - H scap - Bor.Teth. - C: 1,2,4,5,6,7,8,9 - G
- Rosmarinus officinalis* L. - NP - Medit. - L: 3,4 - K
- Salvia clandestina* L. ! - H scap - Eur.Medit. - C: 1,2,3,4,5,8,9 - H
- Salvia glutinosa* L. ! - H scap - Europ. - L: 6,7,8 - L
- Salvia pratensis* L. ! - H scap - Europ. - R: 1,2,6 - G
- **Salvia sclarea* L. - old indications from Giuncarico and Pitigliano (Santi in Caruel 1860-64)
- Salvia verbenaca* L. ! - H scap - Medit.Atl. - C: 1,2,3,4,5,6,7,8,9 - N
- Salvia virgata* Jacq. ! - H scap - Medit.Pont. - R: 2,3,5 - N
- Salvia viridis* L. ! - T scap - Medit. Ir.Tur. - RR: 9 - H; area Capalbio (coll. *Sommier* 1892, FI!; Baroni 1901) and Orbetello near pozzo del Pitorsino (HS 2628; Selvi 2005)
- Satureja montana* L. ! - Ch suffr - Eur.Medit. - C: 1,2,3,4,5,6 - G,I
- Scutellaria columnae* All. ! - H scap - MidEur.Medit. - C: 1,2,5,6,7,8 - L
- Sideritis romana* L. ! - T scap - Medit. - C: 1,2,3,4,5,7,8,9 - H
- Stachys annua* (L.) L. ! - T scap - Europ. - R: 2,5 - N
- Stachys arvensis* L. ! - T scap - Eur.Medit. - C: 2,3,4,9 - H
- Stachys germanica* L. ! - H scap - Eur.Medit. - R: 1,7 - G
- Stachys heraclea* All. ! - H scap - OroCW Medit. Apenn. - R: 1,2,7 - G
- Stachys maritima* Gouan - H scap - Medit. - RR: 4 - B; sand dunes of Burano (Angiolini & al. 2002)
- Stachys ocymastrum* (L.) Briq. ! - T scap - Medit. - R: 4,5,9 - N
- Stachys officinalis* (L.) Trevis. ! - H scap - Eurosib.Medit. - C: 1,2,3,4,5,6,7,8,9 - G,L
- Stachys palustris* L. - H scap - Eurosib. - RR: 4 - E; Burano lake (Angiolini & al. 2002)
- Stachys recta* subsp. **grandiflora** (Caruel) Arcang. ! - H scap - Eur.Medit. - C: 1,2,4,5,7 - G
- Stachys recta* L. subsp. **recta** ! - H scap - Europ. - R: 1,7 - G
- Stachys recta* L. subsp. **serpentinii** ! - H caesp - Endem. (N Apennines) - L: 1 - G; serpentine outcrops in the Merse Valley near Casenovole (HS 2891)
- Stachys salviifolia* Ten. ! - H scap - Medit. - C: 1,2,5,7,9 - G,N; the indication of *S. tym-*

- phaea* Hausskn. from the Uccellina hills (FI!; Arrigoni 2003) is referred here
- Stachys sylvatica* L. ! - H scap - Eurosib. - R: 1,2,6,7,8 - L**
- Teucrium capitatum* L. ! - Ch suffr - Medit. - C: 1,2,3,4,5,7,8,9 - K,I**
- Teucrium chamaedrys* L. ! - Ch suffr - Eur.Medit. - C: 2,3,4,5,6,7,8,9 - G**
- Teucrium flavum* L. ! - Ch frut - Medit. - C: 1,2,3,4,5 - C,K**
- Teucrium fruticans* L. ! - NP - Medit.Macar. - L: 4 - K**
- Teucrium montanum* L. ! - Ch suffr - MidEur.OroMedit. - R: 1,5,7 - G**
- Teucrium scordium* subsp. *scordioides* (Schreb.) Arcang. ! - H scap - Teth.Eur. - R: 2,3 - E**
- Teucrium scorodonia* L. ! - H scap - Eur.OroMedit. - C: 1,2,6,8 - L**
- Teucrium siculum* (Raf.) Guss. - H scap - Endem. (Apennines) - RR: 8 - L; woods of Manciano near Ponte S. Pietro (Scoppola & Bascietto 2001)**
- Thymus longicaulis* C. Presl ! - Ch rept - Apenn.Balk. - C: 1,2,3,4,5,7,9 - G**
- Thymus oenipontanus* Heinr. Braun ! [= *T. glabrescens* subsp. *decipiens* (Heinr. Braun) Domin] - Ch rept - Eur.OroMedit. - RR: 6,7 - G; Mt. Amiata (HS 1958) and Mt. Penna (Frignani & al. 2008)**
- Thymus pulegioides* L. ! - Ch rept - Europ. - L: 6 - G**
- Thymus striatus* Vahl. ! - Ch rept - Apenn.Balk. - R: 1 - G; the populations from the serpentine outcrops near Roccatederighi and Merse valley match var. *ophioliticus* Lacaita**
- **Thymus vulgaris* L. - erroneously indicated from the Farma valley (Bergman in Chiarucci & al. 1993) and the Uccellina hills (Ferri & De Dominicis in Arrigoni 2003)**

OROBANCHACEAE

- Bartsia trixago* L. ! - T scap - Medit. Ir.Tur. - C: 1,2,3,4 - N**
- Euphrasia pectinata* Ten. ! - T scap - Eurosib. - L: 6,7 - G**
- Lathraea squamaria* L. ! - G par - Atl.MidEur. - R: 1,2,7 - L**
- Melampyrum arvense* L. - T scap - Eurosib. - R: 1,6,7 - G**
- Melampyrum cristatum* L. - T scap - Eurosib. - RR:1,9 - G**
- Melampyrum italicum* Soó ! - T scap - CW Medit. Apenn. - L: 1 - L**
- Odontites luteus* (L.) Clairv. ! - T scap - Eur.Medit. - CC: 1,2,3,4,6,8,9 - B,K,L**
- Odontites vernus* (Bellardi) Dumort. ! - T scap - Europ. - C: 1,2,6,7,8 - G**
- Orobanche amethystea* Thuill. ! - T par - Medit.Atl. - R: 7 - G; Rocca Silvana near Selvena (HS 2383) and Mt. Penna (HS 1449, 2787); the indication of *O. pallidiflora* Wimm. & Grab. from Mt. Buceto, on *Cirsium tenoreanum* (Selvi 2000) is to be referred here (G. Domina, *pers. com.*)**
- Orobanche artemisiae-campestris* Gaud. ! - T par - Eur.Medit. - R: 2,3 - N**
- Orobanche caryophyllacea* Sm. - T par - Eur.OroMedit. - RR: 7 - G; Mt. Penna (SI!; Frignani & al. 2008)**
- Orobanche crenata* Forssk. ! - T par - Medit.Pont. - R: 2,5 - N; area of Roccastrada (HS 3025) and Scansano along Torrente Mozzapiede (Cenerini 1998)**
- Orobanche hederæ* Duby ! - T par - Eur.Medit. - C: 1,2,8 - L**
- Orobanche lavandulacea* Rchb. - T par - Teth. - RR: 4; indicated from the Burano lake (Angiolini & al. 2002)**
- Orobanche minor* Sm. ! - T par - Eur.Medit. - C: 1,2,3,4,6,7,9 - G,N**
- Orobanche mutellii* F.W. Schultz ! - T par - Medit. Ir.Tur. - R: 4,5 - G,I**
- Orobanche nana* Reut. ! - T par - Medit. - C: 2,3,5,9 - K**

Orobanche pubescens d'Urv. ! - T par - Medit. - RR: 2 - N; near Sticciano (HS 1143, 1144; Selvi 1998)

?***Orobanche purpurea*** Jacq. - T par - Holart.Paleotrop. - 9?; indicated from Capalbio (Sommier 1892a sub *Phelipaea coerulea* C.A.Mey.); the indication from the Farma valley (Chiarucci & al. 1993, SI!) should be referred to *O. hederæ* (G. Domina, *pers. com.*); to be confirmed

Orobanche rapum-genistæ Thuill. ! - T par - CW Medit.Atl. - R: 2,6,7 - L

Parentucellia latifolia (L.) Caruel ! - T scap - Medit.Atl. - C: 1,2,3,4,9 - H

Parentucellia viscosa (L.) Caruel ! - T scap - Teth. Atl. - C: 1,2,3,4,5,9 - N

LENTIBULARIACEAE

?***Utricularia minor*** L. - I nat - Bor. - 9?; indicated from Lake Marruchetone near Capalbio (Guazzi & Tomei 1993), but here not confirmed (Lastrucci & al. 2007)

Utricularia australis R. Br. ! - I nat - Bor. - RR: 9 - D; Lago Scuro near Manciano, where it is abundant (HS 2708)

ACANTHACEAE

Acanthus mollis L. - H scap - Naturalized - C: 2,3,4 - N

VERBENACEAE

Verbena officinalis L. - H scap - Cosmop. - CC: 1,2,3,4,5,8,9 - N

Vitex agnus-castus L. ! - P caesp - Medit.Pont. - RR: 3 - E; in a few places and with sparse individuals in the Maremma park at the base of the cliffs of Collelungo and Castelmarino (Arrigoni 2003) and around Castiglione d. Pescaia, near fosso delle Rocchette and along some ditches around the lagoon (HS 2875); it could be introduced here, but the old indication by Santi (in Caruel 1860-64) from “acquedotto di Castiglione” suggests that it may be native in a few wet places along the coast

AQUIFOLIACEAE

Ilex aquifolium L. ! - P caesp - Eur.OroMedit. - C: 1,2,5,6,7,8 - L

CAMPANULACEAE

Campanula erinus L. ! - T scap - Teth. - C: 1,2,4,5,8,9 - C,G

**Campanula medium* L. - an old indication Mt. Amiata at SS. Trinità (Santi in Caruel 1860-64), not supported by later findings

Campanula glomerata L. ! - H scap - Eurosib. - RR: 7 - L; very rare along the Vivo stream between Altore and Piagge, in the area of Mt. Amiata near Seggiano (HS 3204)

Campanula persicifolia L. ! - H scap - Eurosib. - R: 1,7 - L

Campanula rapunculus L. ! - H bienn - Eur.Medit. - CC: 1,2,3,4,5,7,8,9 - G,L

?***Campanula rotundifolia*** L. - H scap - Holarct. - 6?; a doubtful, incomplete specimen from Mt. Amiata (coll. Vaccari 1914, FI!; Selvi 1996) with no support from later observations

Campanula trachelium L. ! - H scap - Eur.OroMedit. - C: 1,2,5,6,7,8,9 - L

Jasione montana L. ! - H bienn - CW Medit. Europ. - C: 1,2,4,5,6,7,8 - H,N

Legousia falcata (Ten.) Fritsch. - T scap - Medit. - R: 1,4,9 - N; Uccellina hills (Arrigoni 2003), Capalbio near Lago Acquato (coll. Sommier 1892, FI!; Guazzi & Tomei 1993)

and Monterotondo M.mo (coll. *Fiori* 1918, FI!)

Legousia hybrida (L.) Delarbre ! - T scap - Eur.Medit. - R: 2,4,8 - N

Legousia speculum-veneris (L.) Chaix ! - T scap - Eur.Medit. - C: 1,5,6,7,8 - N

Phyteuma scorzonerifolium Vill. ! - H scap - Alp.App. - L: 6,7 - L; the old indication of *P. ovatum* subsp. *pseudospicatum* Pignatti from Mt. Amiata (Santi in Caruel 1860-64 sub *P. halleri* All.) is to be referred here (Selvi 1996)

Solenopsis laurentia (L.) C.Presl ! - T scap - CW Medit. - R: 2,9 - E

ASTERACEAE

Achillea ageratum L. ! - H scap - W Medit. - C: 1,2,3,4,5,6,7 - N

Achillea collina (Rchb. f.) Heimerl ! - H scap - Europ. - C: 1,2,5,6,7 - G

Achillea ligustica All. ! - H scap - Medit. - L: 2; Sticciano (HS 3019) - N

Achillea maritima (L.) Ehrend. et Y.P. Guo ! - Ch suffr - Medit.Atl. - R: 4 - B; sand dunes of the southern coastal sector

Achillea millefolium L. - H scap - Eurosib.Teth. - L: 6,7 - G,N

Achillea setacea Waldst. et Kit. ! - H scap - MidEur.Pont. - R: 6,7,8 - G

?***Achillea tomentosa*** L. - H scap - Eurosib. OroMedit. - 1?; indicated from the Farma valley (Chiarucci & al. 1993) based on a collection without open flowers that could belong to *A. setacea* W. et K.

Adenostyles alpina (L.) Bluff et Fingerh. ! - H scap - Apenn.Balk. - L: 6 - L; beech forests on Mt. Amiata (HS 1970; Selvi 1996)

Anacyclus clavatus (Desf.) Pers. ! - T scap - Medit. - R: 2,3,4 - N

Anacyclus radiatus Loisel. ! - T scap - CW Medit. - C: 2,3,4 - N

Andryala integrifolia L. ! - T scap - W Medit. - C: 2,3,4,5,9 - N

**Antennaria dioica* (L.) Gaertn. - an old, unreliable indication from Mt. Amiata (Savi in Caruel 1860-64)

Anthemis arvensis L. subsp. *arvensis* ! - T scap (H scap) - Eur.Medit. - C: 1,2,3,4,5,7,9 - H,N

Anthemis arvensis subsp. *incrassata* (Loisel.) Nyman ! - T scap - Medit. - R: 1,2,4,6 - N

Anthemis cotula L. ! - T scap - Eur.Medit. - R: 2,5,9 - N

Anthemis maritima L. ! - H scap - Medit. - L: 3,4 - B

Arctium lappa L. ! - H bienn - Ir.Tur. Europ. - C: 5,6,7,8 - N

Arctium minus (Hill) Bernh. ! - H bienn - Eur.Medit. - C: 1,2,3,4,5,7 - N

Arctium nemorosum Lej. ! - H bienn - Europ. - R: 1,6,7,8 - L

?***Arnosseris minima*** (L.) Schweigg. et Körte - T ros - Eur.OroMedit. - 5?; an old indication from Saturnia (Savi in Caruel 1860-64 sub *A. pusilla* Gaertn.), where its presence might be possible

Artemisia absinthium L. ! - Ch suffr - locally naturalized - 1 - N; volcanic rocks of Roccatederighi (HS 2490)

**Artemisia alba* Turra - indicated from Montemassi, Roccatederighi and Sassofortino (Santi in Caruel 1860-64 sub *A. camphorata* Vill.) but never observed in these areas

Artemisia caerulescens L. ! - Ch suffr - Eur.Medit. - L: 3,4 - B

Artemisia verlotiorum Lamotte ! - H scap - Bor. - C: 1,2,3,5,6,7,8,9 - N

Artemisia vulgaris L. - H scap - Bor. - C: 1,3,5,6,7,8 - N

**Aster bellidiastrum* (L.) Scop. - indicated from Montieri (Savi in Caruel 1860-64 sub *Bellidiastrum michelii* Cass.) but never observed in this area

- Asteriscus aquaticus* (L.) Less. - T scap - Medit.Macar. - RR: 4?,9 - G; area of Capalbio (coll. *Sommier* 1892, FI!; *Baroni* 1901); also indicated from the Trappola lagoon in the Maremma park (Tomei & al. 2001) but not confirmed in Arrigoni (2003)
- Bellis annua* L. ! - T scap - Medit.Macar. - C: 2,3,4,5,6,7,8,9 - H,N
- Bellis perennis* L. ! - H ros - Eur.Medit. - C: 1,2,3,4,5,6,7,8,9 - N
- Bellis sylvestris* Cirillo - H ros - Medit. - C: 1,2,4,8,9 - N
- Bidens frondosus* L. ! - T scap - Naturalized - C: 3,5,8,9 - N
- Bidens tripartitus* L. ! - T scap - Naturalized - R: 1,2 - N
- Bombycilaena erecta* (L.) Smoljan. ! - T scap - Eur.Medit. - C: 1,3,5,7 - G
- Calendula arvensis* (Vaill.) L. ! - T scap - Teth. Atl. - CC: 1,2,3,4,5,8,9 - N
- Carduus acicularis* Bertol. ! - T scap - Medit. - R: 1,5,7 - N
- Carduus chrysacanthus* Ten. - H scap - Endem. (C Apennines) - 1 - G; Cornate di Gerfalco (FI!; Selvi 2001)
- Carduus nutans* L. subsp. *nutans* ! - H bienn - Eur.Medit. - C: 1,4,5,6,7 - N
- Carduus nutans* subsp. *micropterus* (Borbás) Hayek ! - H bienn - CW Medit. - R: 2,3,7 - N
- Carduus nutans* subsp. *perspinosus* (Fiori) Arènes - H bienn - Endem. (Apennines and Italic-Provencal area - R: 1,7 - N
- Carduus pycnocephalus* L. ! - H bienn - Teth. - CC: 1,2,3,4,5,7,8,9 - N
- Carlina acanthifolia* All. ! - H ros - MidEur. - RR: 7 - G; Mt. Labbro (Maccherini & al. 1994, Baldini, 1996) and Mt. Nebbiaio near Castellazzara (HS 2879)
- Carlina corymbosa* L. ! - H scap - Medit. ! - C:1,2,4,5,7,8 - G,N
- Carlina lanata* L. ! - T scap - Medit. - C: 1,2,3,5,7 - G,N
- Carlina macrocephala* Moris - H scap - Endem. (Sardinia, Corsica and Apennines) - RR: 1 - G; collected only once on Poggio di Montieri (coll. *Fiori* 1918, FI!)
- Carlina vulgaris* L. ! - H scap - Europ. - C: 1,2,6,7,8 - G
- Carthamus caeruleus* L. ! - H scap - Medit.Macar. - R: 2,4,9 - N
- Carthamus lanatus* L. ! - T scap - Teth.Eur. - C: 1,2,3,5,7,8 - N
- ?*Catananche caerulea* L. - H scap - W Medit. - 4?; indicated from the hills around Ansedonia (Savi in Caruel 1860-64), where it might be present
- Catananche lutea* L. - T scap - Medit. - RR: 4; collected only once in the area of Capalbio (*Sommier* 1892b; FI!)
- Centaurea aplolepa* subsp. *carueliana* (Micheletti) Dostál ! - H bienn - Endem. (Tuscany and Emilia-Romagna) - L: 1 - G; dry hills on calcareous and serpentine soil in the area of Roccastrada and Montieri; the indication of *C. ambigua* Guss. from Cornate di Gerfalco (Frignani & al. 2004) is to be referred here
- Centaurea aplolepa* subsp. *cosana* (Fiori) Dostál ! - H scap - Endem. (Maremma) - L: 2,4,5 - G,K
- Centaurea aplolepa* subsp. *subciliata* (DC.) Dostál ! - H scap - Endem. (Tuscany) - RR: 3 - B; remnants of consolidated sand dunes between Follonica and Prato Ranieri (HS 3262); this is the southernmost population known to date for this taxon, which is listed as Vulnerable in the regional redlist (Re.Na.To. 2005)
- Centaurea aspera* L. ! - H scap - W Medit. - RR: 3 - B; rare along the sandy coast between Castiglione d. Pescaia and Rocchette (HS 0426)
- Centaurea calcitrapa* L. ! - H bienn - Eur.Medit. - C: 2,3,4,5,7 - N
- **Centaurea cineraria* subsp. *cinerea* (Lam.) Dostál - indicated from Talamone (Savi and

- Bertoloni in Caruel 1860-64 sub *C. cinerea* Lam.) but here never observed
- Centaurea deusta*** Ten. ! - H bienn - Apenn.Balk. - C: 1,5,6,7,8 - G; included *C. deusta* subsp. *splendens* (Arcang.) Matthas & Pign., indicated from various localities
- Centaurea jacea*** subsp. ***gaudinii*** (Boiss. et Reut.) Greml! - H scap - C Medit. Balk. - C: 1,2,3,4,5,6,7,8,9 - N
- Centaurea melitensis*** L. - T scap - Medit.Macar. - RR: 4 - N; Ansedonia (Sommier1892; FI!); also indicated by error from Mt. Labbro (Maccherini & al. 1994)
- Centaurea napifolia*** L. - T scap - W Medit. - RR: 3 - B; humid pastures in the coastal area of the Maremma park, between Cala di Forno and Collelungo, near Bocca d'Ombrone and Grotta della Fabbrica (FI!; Soldano 1979; Arrigoni 2003)
- Centaurea nigrescens*** Willd. ! - H scap - C Medit. Mid Europ. - R: 1,3,4 - G
- Centaurea rupestris*** L. - H scap - Apenn.Balk. - RR: 7 - G; calcareous rocks of Mt. Civitella above Castellazzara (Frignani & al. 2008)
- Centaurea scabiosa*** L. ! - H caesp - Eurosib. - RR: 7 - G; between Selvena and Castellazzara (HS 2786; (Frignani & al. 2008)
- Centaurea solstitialis*** L. ! - H bienn - Teth. - CC: 1,2,3,4,5,7,8,9 - N
- Centaurea sphaerocephala*** L. ! - H scap - W Medit. - L: 3,4 - B
- Centaurea thuilleri*** J. Duvign. et Lambinon ! - H scap - Europ. - 1 - G; Farma valley near Canaloni (HS 2476)
- Chamaemelum fuscatum*** (Brot.) Vasc. ! - T scap - Medit. - L: 3,4,9 - B
- Chondrilla juncea*** L. ! - H scap - Eurosib.Teth. - C: 1,2,3,4,5,6,7,9 - N
- Cichorium intybus*** L. ! - H scap - Holarct. - CC: 1,2,3,4,5,6,7,8,9 - N
- Cichorium pumilum*** Jacq. ! - T scap - Medit. - R: 3,5 - G
- Cirsium arvense*** (L.) Scop. ! - G rad - Holarct. - CC: 1,2,3,4,5,7,8,9 - N
- Cirsium creticum*** L. subsp. ***triumfetti*** (Lacaita) K. Werner ! - H bienn - CW Medit. - R: 1,2,6,7 - E
- Cirsium italicum*** DC. ! - H bienn - Medit. - R: 2,3,5,8,9 - N
- Cirsium monspessulanum*** (L.) Hill ! - H scap - W Medit. - R: 2,3,4 - E
- Cirsium tenoreanum*** Petr. ! - H bienn - Endem. Apenn. - L: 1,6,7 - G
- Cirsium vulgare*** (Savi) Ten. ! - H bienn - Eurosib.Teth. - C: 1,2,3,5,7,8 - N
- Cladanthus mixtus*** (L.) Chevall. ! - T scap - Medit. - R: 2,3,4 - N
- Coleostephus myconis*** (L.) Rchb. f. ! - T scap - Medit. - CC: 1,2,3,4,5,9 - N
- Cota altissima*** (L.) J. Gay ! - T scap - Teth. - C: 1,2,5,9 - N
- Cota tinctoria*** (L.) J. Gay ! - H bienn - Eur. Pont. - C: 1,2,5,6,7,8 - N
- Cota triumfetti*** (L.) J. Gay ! - H scap - Medit.Pont. - R: 5 - G; Torrente Trasubbie (HS 2616; Frignani & al. 2007)
- Crepis bursifolia*** L. ! - H ros - Endem. (Ligurian-Tyrrhenian and Siculo-Apulian area) - L: 2,3,4 - N; first collected near Batignano (Selvi 1998), and rapidly expanding in the coastal areas
- ? ***Crepis dioscoridis*** L. - T scap - ??; an old indication between Paganico and Batignano (Savi in Caruel 1860-64; Pignatti 1982); needing confirmation
- Crepis foetida*** L. ! - T scap - Teth.Eur. - R: 1,2,3,4 - N
- Crepis lacera*** Ten. ! - H scap - Endem. (C and S Apenn.) - RR: 1,7 - G; very rare on Poggio di Prata (HS 0443; Selvi 1997a) and area of Seggiano between Piagge and Altore (HS 3177)
- Crepis leontodontoides*** All. ! - H scap - Eur.Medit. - CC: 1,2,4,5,6,7,8,9 - L

- Crepis neglecta* L. ! - T scap - Medit. Balk. - CC: 1,2,4,5,7,8,9 - G,N
Crepis pulchra L. ! - T scap - Teth.Eur. - C: 1,3,5,7,9 - G
Crepis sancta (L.) Bornm. ! - T scap - Teth. Pont. - CC: 1,2,3,4,5,6,7,8,9 - N
Crepis setosa Haller f. ! - T scap - Eur.Medit. - C: 1,2,3,5 - N
Crepis vesicaria L. ! - T scap - Medit. - CC: 1,2,3,4,5,7,8,9 - G,N
Crepis zacintha (L.) Loisel. ! - T scap - Medit. - C: 1,2,3,4,5,7,8,9 - H
Crupina crupinastrum (Moris) Vis. - T scap - Teth. - RR: 1 - G; Poggio Mutti near Montieri (Frignani & al. 2004)
Crupina vulgaris Cass. ! - T scap - Teth.Eur. - C: 1,2,3,4,5,7 - G,H
Cyanus segetum Hill ! - T scap - Eur.Medit. - R: 1,5,6,7 - N
Cyanus triumfetti (All.) Å. Löve et D. Löve ! - H scap - Teth.Eur. - R: 1,5,7 - L
Cynara cardunculus L. ! - H scap - Medit. - L: 3,5,9 - B,N; the wild artichoke is native on the dry, clayey soils in the mid and low valley of the river Albegna (HS 1822), and on the badlands along Torrente Trasubbie (Frignani & al. 2007); it is doubtfully native in the area of Diaccia Botrona near Castiglione d. Pescaia (Sforzi & Selvi 1999)
Dittrichia graveolens (L.) Greuter ! - T scap - Medit. - CC: 1,2,3,9 - N
Dittrichia viscosa (L.) Greuter ! - H scap - Teth. - CC: 1,2,3,4,5,6,7,8,9 - N
 **Doronicum columnae* Ten. - indicated by error from Mt. Amiata (Arrigoni & Nardi 1975)
 **Doronicum pardalianches* L. - an old, unreliable indication from Prata at Fosso dello Stregaio (Savi in Caruel 1860-64)
Echinops ritro L. subsp. *ritro* (Strobl) Greuter ! - H scap - Medit. - L: 7 - C; Mt. Labbro (Maccherini & al., 1994), Mt. Civitella and Mt. Nebbiaio near Castellazzara (HS 2867)
Echinops ritro subsp. *siculus* (Strobl) Greuter ! - H scap - Endem. (Apennines) - C: 1,2,6,7,9 - L; frequent in broadleaf woods
Erigeron acris L. ! - H scap - Eurosib. - R: 1,6 - G
Erigeron annuus (L.) Desf. ! - T scap - Naturalized - R: 1,2 - N; Mt. Sassoforte (HS 3024); also indicated from the Accessa lake (Rizzotto 1982)
Erigeron bonariensis L. - T scap - Naturalized - CC: 2,3,4 - N
Erigeron canadensis L. - T scap - Naturalized - CC: 1,2,3,4,5,7,8,9 - N
Erigeron sumatrensis Retz. - T scap - Naturalized - L: 3,4 - N
Eupatorium cannabinum L. ! - H scap - Europ. - CC: 1,2,4,5,6,7,8,9 - E,G
Filago arvensis L. ! - T scap - Eurosib.Teth. - R: 1 - G; Roccatederighi at Colle della Miniera (HS 0283)
Filago asterisciflora (Lam.) Sweet ! - T rept - CW Medit. - R: 2,9 - H; areas of Roccastrada near Sticciano and Lattaia (HS 1831, 2538) and Capalbio (HS 2108)
Filago gallica L. ! - T scap - Medit.Atl. - C: 2,3,4,5 - H
Filago germanica (L.) Huds. ! - T scap - Eur.Medit. - C: 1,2,3,4,6,7,9 - N
Filago minima (Sm.) Pers. - T scap - Eur.OroMedit. - RR: 6 - G; Mt. Amiata (coll. Sommier 1873, FI!)
Filago pygmaea L. ! - T rept - Medit.Macar. - R: 2,4,5 - H
Filago pyramidata L. ! - T scap - Teth. Atl. - C: 2,5,7,9 - H,N
Galactites tomentosus Moench ! - H bienn - Medit. - CC: 1,2,3,4,5,7,8,9 - N
Galatella lynosiris (L.) Rchb. f. ! - H scap - Europ. - C: 1,2,4,5 - G
Galinsoga parviflora Cav. - T scap - Naturalized - R: 2 - N; along the Merse river near its junction with Ombrone (coll. Sforzi & Senesi 2003, FI!)

- Geropogon hybridus*** (L.) Sch. Bip. ! - T scap - Medit. - C: 1,4,5,7,9 - G
- Glebionis coronaria*** (L.) Spach ! - T scap - Medit. - L: 3,4 - N
- Glebionis segetum*** (L.) Fourr. ! - T scap - Medit.Atl. - C: 1,2,3,4,5,9 - N
- Gnaphalium sylvaticum*** L. ! - H scap - Bor. - 6,7 - L; Mt. Amiata (HS 0281; Selvi 1996) and Mt. Labbro near Podere del Nobili (HS 3055)
- Gnaphalium uliginosum*** L. ! - T scap - Bor. - 1,6 - E; small lake of Montieri (HS 2612; Selvi & Stefanini 2005) and in a wet place between Corno di Bellaria and top of Mt. Amiata (HS 0282; Selvi 1996)
- Hedypnois rhagadioloides*** (L.) F.W.Schmidt ! - T scap - Medit. - C: 2,3,4,5,9 - H; *H. cretica* (L.) Dum.Cours., indicated from the southern coastal sector, is here included in this species (Greuter 2008)
- Helianthus annuus*** L. - T scap - locally Naturalized (escaped from culture) - R: 2,3,4,5,9 - N
- Helianthus pauciflorus*** Nutt. - H scap - Naturalized - R: 2 - N
- Helianthus tuberosus*** L. - H scap - Naturalized - R: 1,3,5 - N
- Helichrysum italicum*** (Roth) G. Don ! - Ch suffr - Medit. - CC: 1,2,3,4,5,6,7,8,9 - C,I,G
- Helichrysum litoreum*** Guss. - Ch suffr - Endem. (Ligurian-Tyrrhenian area) - L: 3,4 - B
- Helichrysum stoechas*** (L.) Moench ! - Ch suffr - W Medit. - L: 3,4 - B
- Helminthotheca echioides*** (L.) Holub ! - T scap - Medit. Ir.Tur. - CC: 1,2,3,4,5,7,8,9 - N
- Hieracium glaucinum*** Jord. ! - H scap - MidEurop.Pont. - RR: 1; collected in the Farma valley in the locality "Canaloni" on humid and shady siliceous rocks along the southern bank of the stream (HS 2083); apparently the first record from Tuscany; the collection can be referred to a new subspecies to be described (G. Gottschlich, *pers. comm.*)
- Hieracium grovesianum*** Belli ! - H scap - Alp.App. - R: 1,6 - L; beech forests on Mt. Amiata (Selvi 1996; HS 3163, 0289); also on Poggio di Montieri (HS 2645), but here in a form showing an influence of *H. bifidum* Hornem.
- Hieracium murorum*** L. subsp. *murorum* - H scap - Europ. - C: 1,2,5,6,7,8 - L
- Hieracium murorum*** subsp. *tenuiflorum* (A.-T.) Schinz & R. Keller ! - H scap - Europ. - RR: 6 - L; collected only once on Mt. Amiata (HS 0293); apparently the first record from Tuscany
- Hieracium maranzae*** (Murr & Zahn) Prain (= *H. neoplatyphyllum* Gottschl.; *sabaudum-racemosum*) ! - H scap - Eur.Medit. - RR: 2 - L; collected only once in the Mt. Leoni area (HS 0299); apparently the first record from Tuscany
- Hieracium racemosum*** subsp. *italicum* Zahn ! - H scap - Apenn.Balk. - C: 1,2,6,7 - L; populations of the *Italica* section from the calcareous rocks in the upper Albegna valley possibly represent a new taxon to be described (HS 3269; G. Gottschlich, *pers. comm.*)
- Hieracium racemosum*** subsp. *virgaurea* (Coss.) Zahn ! - H scap - Endem. (west Alps, Apennines and Corsica) - R: 1,2,6,7 - L; acid *Castanea* woods on upper slopes of Mt. Amiata (Selvi 1996), Mt. Leoni (HS 0295, 0292, 0296) and probably Poggio di Montieri (coll. *Sforzi & Senesi* 2002, FI!)
- Hieracium sabaudum*** L. ! - H scap - Europ. - C: 1,2,6,7,8 - L
- Hieracium schmidtii*** Tausch ! - H scap - OroEurop. - 1 - C; trachytic rocks on the top of Mt. Amiata (HS 1888; Selvi 1996), but in a non-typical form (G. Gottschlich, *pers. comm.*)

- Hieracium umbellatum*** L. ! - H scap - Holarct. - R: 2 - G; in the typical form known only from the acid garrigues and heaths in the Mt. Leoni area (HS 0302, 0301)
- Hieracium vasconicum*** Martrin-Donos (*sabaudum-umbellatum*) ! - H scap - Eur.Medit.? - RR: 6 - L; collected on the western slopes of Mt. Amiata (HS 0300); apparently the first record from Tuscany
- Hyoseris radiata*** L. ! - H ros - Medit. - R: 4 - C; gulf of Talamone (HS 2065) and Uccellina hills (Arrigoni 2003)
- Hyoseris taurina*** (Pamp.) Martinoli ! - H ros - W Medit. - RR: 4 - B; rocky coast of Ansedonia (HS 2617); the Tuscan populations were previously indicated as *H. baetica* (G. Kunze) Font-Quer (also in Conti & al. 2005), a taxon of doubtful taxonomic value included in *H. taurina* (Vangelisti & Cela Renzoni 1997, Greuter 2008)
- Hypochaeris achyrophorus*** L. ! - T scap - Medit. - CC: 1,2,3,4,5,7,8,9 - G,H,N
- Hypochaeris glabra*** L. ! - T scap - Eur.Medit. - C: 1,2,3,4,5,9 - G
- Hypochaeris radicata*** L. ! - H ros - Eur.Medit. - CC: 1,2,3,4,5,6,8,9 - G
- Inula conyzae*** (Griess.) DC. - H bienn - Eur.OroMedit. - C: 1,2,4,5,6,7,8 - G
- Inula hirta*** L. ! - H scap - Eurosib. - R: 1,2,3 - G
- Inula montana*** L. ! - H scap - CW Medit.Atl. - L: 1,7 - C
- Inula salicina*** L. ! - H scap - Bor. - C: 1,2,5,7 - G
- Inula spiraeifolia*** L. ! - H scap - Mid Europ. - R: 2,4 - G
- Jacobaea erratica*** (Bertol.) Fourr. ! - H bienn - Eur.Medit. - CC: 1,2,3,4,5,7,8 - E,N
- Jacobaea maritima*** (L.) Pelser et Meijden ! - Ch suffr - W Medit. - L: 3,4 - B
- Jacobaea erucifolia*** (L.) G. Gaertn., B. Mey. et Scherb. ! - H scap - Eurosib. - C: 1,2,6,7 - G
- Klasea flavescens*** subsp. *cichoracea* (L.) Greuter et Wagenitz ! - H scap - Medit. - R: 2,4,5,9 - G,K
- Lactuca muralis*** (L.) Gaertn. ! - H scap - Eur.OroMedit. - C: 1,2,6,7,8 - L
- Lactuca perennis*** L. ! - H scap - Europ. - RR: 7 - C; calcareous cliffs in the upper Albegna valley above Roccalbegna (HS 2659)
- Lactuca saligna*** L. - T scap - Teth.Eur. - C: 1,2,3,4,5,7,9 - N
- Lactuca sativa*** L. - T scap - locally escaped from culture - R: 2,3,4,5,9 - N;
- Lactuca serriola*** L. ! - T scap - Eurosib.Teth. - C: 1,2,3,4,5,8,9 - N
- Lactuca viminea*** (L.) J. et C. Presl ! - H bienn - Eur.Medit. - R: 3,4,5 - N
- Lactuca virosa*** L. ! - T scap - Eur.Medit. - R: 1,2,6 - N
- Laphangium luteoalbum*** (L.) Tzvelev - T scap - Subcosmop. - 1,3 - G; woods near Boccheggiano (coll. *Bavazzano* 1949, FI !) and coastal scrub north of Marina di Alberese in the Maremma park (FI!; Arrigoni 2003)
- Lapsana communis*** L. ! - T scap - Eurosib.Medit. - C: 1,2,4,5,6,7 - G
- Leontodon crispus*** Vill. ! - H ros - MidEur.Pont. - R: 1,7 - G
- Leontodon hispidus*** L. ! - H ros - Eur.Medit. - C: 1,2,5,6,7,8 - G
- Leontodon rosani*** (Ten.) DC. ! - H ros - CW Medit. - C: 1,2,5,6,7 - G
- Leontodon saxatilis*** Lam. ! - H ros - C Medit. Europ. - R: 1,2,3 - G
- Leontodon tuberosus*** L. ! - H ros - Medit. - C: 1,2,3,5,7,9 - G
- Leucanthemum adustum*** (W.D.J. Koch) Grelli ! - H scap - OroMedit. - RR: 1,7 - G; rare between Triana and Mt. Labbro (HS 2663); indicated also from the Farma valley (Chiarucci & al. 1993)

- Leucanthemum pachyphyllum* Marchi et Illuminati ! - H scap - Endem. (Tuscany) - RR: 1 - G; serpentine outcrops of Colle della Miniera near Roccatederighi (HS 0323)
- Leucanthemum pallens* (Perreyem.) DC. ! - H scap - MidEur.Medit. - L: 1,6,7 - G
- Leucanthemum vulgare* (Vaill.) Lam. ! - H scap - Subcosmop. - C: 1,2,5,6,7,8,9 - G,L,N
- Limbarda crithmoides* subsp. *longifolia* (Arcang.) Greuter ! - Ch suffr - Medit.Atl. - L: 3,4 - B
- Mantisalca salmantica* (L.) Briq. et Cavill. ! - H scap - CW Medit. - RR: 3 - N; dry, marginal areas in the coastal plains around Diaccia Botrona, Raspollino (HS 0325, 3020; Sforzi & Selvi 1999) and Maremma park (Arrigoni 2003)
- Matricaria chamomilla* L. ! - T scap - Subcosmop. - C: 1,2,3,5 - N
- Notobasis syriaca* (L.) Cass. ! - T scap - Teth. - R: 2,5,9 - N; especially frequent in the dry pastures in the mid Albegna valley (Selvi 2002)
- Onopordum acanthium* L. ! - H bienn - Teth.Eur. - R: 2,6,7 - N
- Onopordum illyricum* L. ! - H bienn - Medit. - C: 2,3,4,5,7,8,9 - N
- Pallenis spinosa* (L.) Cass. ! - H bienn - Medit. - C: 2,3,5,7,9 - G,N
- Petasites albus* (L.) Gaertn. ! - G rhiz - Europ. - L: 6 - E
- Petasites hybridus* (L.) G. Gaertn., B. Mey. et Scherb. ! - G rhiz - Europ. - C: 1,2,5,7,8 - E
- Phagnalon saxatile* (L.) Cass. ! - Ch suffr - CW Medit. - R: 3,4 - C; the indication of *P. rupestre* (L.) DC. from the Uccellina hills (Arrigoni 2003) is referred here
- Phagnalon sordidum* (L.) Rchb. ! - Ch suffr - W Medit. - R: 4,5 - C
- ?*Picnomon acarna* (L.) Cass. - H scap - Medit. - 9?; indicated from Capalbio (Sommier in Baroni 1901), but not observed or supported by herbarium material
- Picris hieracioides* L. - H scap - Eurosib.Medit. - CC:1,2,3,4,5,6,7,8,9 - N
- Pilosella brachiata* (DC.) F.W. Schultz & Sch.Bip. (*officinarum-piloselloides*) ! - H scap - Eur.Medit. - RR: 7 - G; dry pastures near Roccaccia di Montevitozzo (HS 3151)
- Pilosella officinarum* Vaill. ! - H ros - Mid Europ. - C:1,2,5,6,7 - G
- Pilosella piloselloides* (Vill.) Soják subsp. *piloselloides* ! - H scap - Eur.Medit. - C: 1,2,5 - G
- Pilosella piloselloides* subsp. *praealta* (Gochnat) S. Bräut et Greuter ! - H scap - Eurosibirico Medit. - C: 1,2,5,6,7,8 - G
- Podospermum canum* C.A. Mey. ! [= *Scorzonera jacquiniana* (W.D.J. Koch) Boiss.] - H scap - MidEur.Pont. - L: 1,5,7 - B,G
- Podospermum laciniatum* (L.) DC. ! - H bienn - Eur.Medit. - C: 1,2,3,4,7 - H,N
- Prenanthes purpurea* L. ! - H scap - Europ. - L: 1,6 - L
- Pulicaria dysenterica* (L.) Bernh. ! - H scap - Teth.Eur. - CC: 1,2,3,4,5,6,7,8,9 - G
- Pulicaria odora* (L.) Rchb. ! - H scap - Medit. - C: 1,2,3,4,5,9 - K,L
- Pulicaria sicula* (L.) Moris - T scap - Medit. - L: 3,4 - G
- Pulicaria vulgaris* Gaertn. - T scap - Eurosib. - R: 1,2,5 - G
- Reichardia picroides* (L.) Roth ! - H scap - Medit. - CC: 1,2,3,4,5,7,8,9 - C,H
- Rhagadiolus edulis* Gaertn. ! - T scap - Medit. - R: 2,9 - N
- Rhagadiolus stellatus* (L.) Gaertn. - T scap - Medit. - C: 1,2,3,4,5,7 - H,N
- Santolina etrusca* (Lacaita) Marchi et D'Amato ! - NP - Endem. (Maremma) - L: 2,5,7 - G
- Scolymus grandiflorus* Desf. ! - H scap - CW Medit. - RR: 4 - N; only known from the gulf of Talamone (HS 1813)
- Scolymus hispanicus* L. ! - H bienn - Medit. - CC: 2,3,4,5,7 - N

- Scolymus maculatus*** L. ! - T scap - Medit. - C: 3,4,5,9 - N
- Scorzonera cichoracea*** (Ten.) Greuter ! - H ros - Medit. Apenn. - L: 1,5,6,7 - G
- Scorzonera hispanica*** L. ! - H scap - MidEur. Sibir. - R: 5,7 - G; hill slopes on clayey soil near Sforzesca di Castellazzara (HS 2843) and Usi in the Albegna valley (HS 0341, 3130). The collections have branched stems and ovate leaves with a sinuate-dentate margin and a distinct petiole; in these and other characters of the capitula they match the typical form of this species rather than subsp. *glastifolia* (Willd.) Hayek. However, this does not agree with Pignatti (1982) and Conti & al. (2005) who quote ssp. *hispanica* only from Friuli V. Giulia and ssp. *glastifolia* from most of peninsular Italy. We follow Aeschmann & al. (2004) who include ssp. *glastifolia* within typical *S. hispanica*
- Senecio inaequidens*** DC. ! - T scap - Naturalized - L: 2 - N; along the new Aurelia highway between Braccagni and Giuncarico (HS 0344); rapidly expanding
- Senecio lividus*** L. ! - T scap - Medit. - C: 2,3,4,9 - K
- Senecio ovatus*** (G. Gaertn., B. Mey. et Scherb.) Willd. ! - H scap - Europ. - L: 1,6,8 - N
- Senecio squalidus*** L. ! - H bienn/H scap - OroEurop. - L: 6 - C
- Senecio sylvaticus*** L. - T scap - Europ. - RR: 1 - L; upper Cecina valley near Bagni delle Gallerie (coll. *Fiori* 1918, FI!) and indicated from the Farma valley (Chiarucci & al. 1993)
- ?***Senecio viscosus*** L. - T scap - Europ. - 1?,6?; old indications from Mt. Amiata (Savi in Caruel 1860-64) and Montieri (Amidei in Caruel 1865); needing confirmation
- Senecio vulgaris*** L. ! - T scap - Bor.Teth. - CC: 1,2,3,4,5,6,7,8,9 - N
- Serratula tinctoria*** L. ! - H scap - Europ. - L: 1,2 - G,L
- Silybum marianum*** (L.) Gaertn. ! - H bienn - Teth. - CC: 1,2,3,4,5,7,8,9 - N
- Solidago virgaurea*** L. ! - H scap - Holarct. - C: 1,2,6,7,8 - L
- Sonchus arvensis*** L. ! - H scap - Bor. - C: 1,2,3,4,7,8 - B,G
- Sonchus asper*** (L.) Hill subsp. *asper* - T scap - Bor.Teth. - C: 1,2,3,4,7,8,9 - N
- Sonchus asper*** subsp. *glaucescens* (Jord.) Ball - T scap - Medit. - L: 3,4 - N
- Sonchus bulbosus*** (L.) N. Kilian et Greuter ! - G bulb - Medit. - CC: 1,2,3,4,5,8,9 - H,K
- Sonchus maritimus*** L. ! - H scap - Medit. - L: 3,4 - B
- Sonchus oleraceus*** L. - T scap - Bor.Teth. - C: 1,2,3,4,5 - N
- Sonchus tenerrimus*** L. ! - T scap - Medit. - C: 2,4,8,9 - N
- Stachelina dubia*** L. ! - Ch frut - W Medit. - R: 1,2,5,7 - I,G
- Symphotrichum lanceolatum*** (Willd.) G.L. Nesom - H scap - Naturalized - C: 3,9 - N
- Symphotrichum novi-belgii*** (L.) G.L. Nesom - H scap - Naturalized - R: 3 - N
- Symphotrichum squamatum*** (Spreng.) G.L. Nesom ! - H scap - Naturalized - C: 2,3,4,9 - N
- Tanacetum corymbosum*** subsp. *achilleae* (L.) Greuter ! - H scap - Eur.Medit. - C: 1,2,4,5,7,8,9 - G
- Tanacetum parthenium*** (L.) Sch. Bip. ! - H scap - Naturalized - RR: 6 - N; Mt. Amiata,
- Tanacetum vulgare*** L. ! - H scap - Bor. - R: 5,6,7 - N
- Taraxacum*** sect. *Erythrosperma* (H. Lindb.) Dahlst. - H ros - Eurosib. - C: 1,5,7 - N; the indications of *T. laevigatum* (Willd.) DC. are referred here
- Taraxacum*** sect. *Scariosa* (Hand.-Mazz.) Dahlst. ! - H ros - Eur.Medit. - R: 2 - N; Sticciano and surrounding areas, on old walls and fissures of siliceous rocks (HS 1451, 2697 sub *T. megalorhizon* (Forssk.) Hand.-Mazz.); the species is possibly *T. megalorhizon*

- lorhizon* (Forssk.) Hand.-Mazz.
- Taraxacum* sect. *Ruderalia*** Kirschner & al. - H ros - Bor.Teth. - C: 1,2,5,6,7,8 - N; all indications and records of *T. officinale* Weber *sensu lato* are provisionally referred here
- Taraxacum palustre*** (Lyons) Symons ! - H ros - Europ. - R: 2,3 - G; humid places in the woods of Mt. Leoni near Pian di Muro, Roccastrada (HS 1901, 2644) and costal plain of the Maremma park (Arrigoni 2003)
- Tolpis umbellata*** Bertol. ! - T scap - W Medit. - L: 2 - H; area of Mt. Leoni (HS 0364; Selvi 1998) and Ampio near Tirli (HS 2130)
- Tolpis virgata*** (Desf.) Bertol. ! - H scap - Medit. - R: 2,7,9 - G; acid meadows near Montepescali (HS 2292) and Monte Labbro at Podere Nobili (HS 3054)
- Tragopogon dubius*** Scop. ! - H bienn - Eurosib. - C: 1,5,7 - G
- Tragopogon porrifolius*** L ! - H bienn - Medit. - CC: 1,2,3,5,6,7,8,9 - N; including *T. porrifolius* subsp. *australis* (Jord.) Nyman, indicated from the Maremma park (Arrigoni 2003)
- Tragopogon samaritani*** Boiss. ! - H bienn - Apenn.Balk. - L: 7 - G; dry, calcareous pastures on Mt. Labbro, Buceto, Civitella and others; the indication of *T. crocifolius* L. from Mt. Amiata (Selvi 1996) was based on a collection from Santa Fiora (coll. Biondi 1888, FI!) originally referred to *T. pratensis* and then redetermined as *T. crocifolius* (M. Auburbey, 1955); we refer this collection to *T. samaritani*, as well as the indications of *T. pratensis* from Arcidosso (Caruel 1865) and Mt. Labbro (Maccherini & al. 1994)
- Tripleurospermum inodorum*** (L.) Sch. Bip. - T scap - Eurosib. - RR: 6; collected only once on the top of Mt. Amiata (coll. Arrigoni & Nardi 1971, FI!)
- Tripolium pannonicum*** subsp. *tripolium* (L.) Greuter ! - H bienn - Bor.Teth. - L: 3,4 - B
- Tussilago farfara*** L. ! - G rhiz - Teth.Eur. - CC: 1,2,5,6,7,8 - G
- Tyrimnus leucographus*** (L.) Cass. ! - T scap - Medit. - R: 2,4,5,8,9 - N
- Urospermum dalechampii*** (L.) F.W. Schmidt ! - H scap - W Medit. - CC: 1,2,3,4,5,7,8,9 - G,N
- Urospermum picroides*** (L.) F.W. Schmidt ! - T scap - Teth. - C: 2,3,4,5 - H,N
- Xanthium orientale*** subsp. *italicum* (Moretti) Greuter ! - T scap - Naturalized (Eur.Medit.) - C: 1,2,3,4,5,7,9 - N
- Xanthium spinosum*** L. - T scap - Naturalized - C: 2,3,4,5 - N
- Xeranthemum cylindraceum*** Sm. ! - T scap - Eurosib. - C: 1,5,6,7 - G
- Xeranthemum inapertum*** (L.) Mill. ! - T scap - CW Medit. - R: 7 - G; dry pastures on Mt. Labbro (Maccherini & al. 1994, Baldini 1996), Poggio all'Olmo (Maccherini & al. 2001) and various places in the area of Seggiano (HS 3170, 3212)

ADOXACEAE

- Adoxa moschatellina*** L. ! - G rhiz - Holarct. - L: 1,6,7 - L
- Sambucus ebulus*** L. ! - G rhiz - Teth.Eur. - C: 1,3,4,5,6,7 - N
- Sambucus nigra*** L. - P caesp - Eur.OroMedit. - C: 1,2,5,6,7,8 - N
- Viburnum tinus*** L. ! - P caesp - Medit. - CC: 1,2,3,4,5,8,9 - K

CAPRIFOLIACEAE

- Centranthus calcitrapae*** (L.) Dufur. ! - T scap - Medit. - R: 2,3,4,5 - C
- Centranthus ruber*** (L.) DC. ! - Ch suffr - Medit. - 4,5,7 - C; often occurring as naturalized

on old walls, but probably native on the limestone cliffs in the upper Albegna valley above Roccalbegna (HS 2743)

Cephalaria leucantha (L.) Roem. et Schult. ! - H scap - CW Medit. - R: 4,5,9 - G
dry, rocky pastures on limestone, near Baccinello and T. Trasubbie and Saturnia at Pian di Palma on travertine platforms.

Cephalaria transylvanica (L.) Roem. et Schult. ! - T scap - Eur.Medit. - C: 1,2,5,7 - N

Dipsacus fullonum L. ! - H bienn - Bor.Medit. - C: 1,2,3,4,5,6,7,8 - N

Knautia arvensis (L.) Coult. ! - H scap - Eurosib.Teth. - C: 1,2,5,6,7 - G; extremely polymorphic and sometimes with forms resembling *K. purpurea*; all the indications of the latter species are to be referred here (*K. arvensis*)

**Knautia dipsacifolia* Kreutz. - an old, unreliable indication from Prata (Santi in Caruel 1860-64 sub *Knautia sylvatica* Dub.)

?***Knautia drymeia*** subsp. *intermedia* (Pernh. et Wettst.) Ehrend. - H scap - Apenn.Balk. - 6? - G; a single, incomplete collection (HS 0537) from the northern slopes of Mt. Amiata (area of Seggiano); needing confirmation

Knautia integrifolia Bertol. ! - T scap - Medit. - CC: 1,2,3,4,5,7,8,9 - H,N

Lonicera caprifolium L. ! - P lian - MidEur.Pont. - C: 1,2,5,6,7,8 - L

Lonicera etrusca Santi ! - P lian - Medit. - C: 1,2,3,5,6,7,8,9 - L

Lonicera implexa Aiton ! - P lian - Medit. - C: 1,2,3,4,5,9 - K

Lonicera japonica Thunb. ! - P lian - Naturalized - RR: 3 - N; margins of the salt marsh area at the mouth of Fosso Alma (HS 1786)

Lonicera nigra L. ! - P caesp - OroEurop. - RR: 6 - M; top of Mt. Amiata (HS 0072, 1946; Selvi 1996)

?***Lonicera periclymenum*** L. - P lian - W Medit.Atl. - 5?; an old indication from the area of Scansano (Santi in Caruel 1860-64; Pignatti 1982), not supported by later observations; needs confirmation

?***Lonicera xylosteum*** L. - P caesp - Eurosib. - 1,7?; indicated from Cornate di Gerfalco (Fiori 1920) and Mt. Labbro (Baldini 1996) based on sterile collections (FIAF!, FI!) of doubtful identity and probably belonging to other species; in need of confirmation

Symphoricarpos albus (L.) S.F. Blake ! - P caesp - Naturalized - RR: 1 - L; humid wood margins near Roccatederighi (coll. Cecchi 2010)

Scabiosa columbaria L. ! - H scap - Holart.Paleotrop. - C: 1,2,4,5,6,7 - G

Scabiosa triandra L. ! - H scap - MidEur.Medit. - C: 1,2,5,6,7 - G

Scabiosa uniseta Savi - H scap - Eur.Medit. - R: 1 - G; Farma valley (Chiarucci & al. 1993) and area of Cornate-Fosini (Frignani & al. 2004)

Sixalix atropurpurea subsp. *maritima* (L.) Greuter et Burdet ! [= *S. atropurpurea* subsp. *grandiflora* (Scop.) Soldano et F. Conti] - H scap - Medit. - C: 1,2,3,4,5 - B,N

Succisa pratensis Moench ! - H scap - Eurosib. - R: 1,2,6 - G

?***Valeriana officinalis*** L. - H scap - Europ. - 1,6?; old indications from Mt. Amiata, Prata and Montieri (Savi in Caruel 1860-64)

Valeriana tripteris L. ! - H scap - OroEurop. - L: 6 - L

Valerianella carinata Loisel. ! - T scap - Eur.Medit. - R: 1,2,4,7 - N

Valerianella dentata (L.) Pollich ! - T scap - Teth.Eur. - R: 1,2,7 - N

Valerianella eriocarpa Desv. ! - T scap - Medit.Atl. - C: 1,2,3,5,7 - H,N

Valerianella locusta (L.) Laterr. ! - T scap - Eur.Medit. - R: 1,3,4,7 - N

- Valerianella microcarpa* Loisel. ! - T scap - Medit. - R: 2,4 - H
Valerianella muricata (Stev. ex M. Bieb.) J.W. Loudon ! - T scap - Medit. - R: 2,3,4,5 - N
Valerianella puberula (Bertol. ex Guss.) DC. - T scap - CW Medit. - R: 4 - H; area of Burano (Sommier 1892, FI!)
Valerianella rimosa Bastard ! - T scap - Eur.Medit. - R: 2 - N - meadows at Pian di Muro between Sticciano and Roccastrada (HS 3264)

ARALIACEAE

- Hedera helix* L. - P lian - Eur.Medit. - CC: 1,2,3,4,5,6,7,8,9 - L

APIACEAE

- Aegopodium podagraria* L. ! - G rhiz - Eurosib. - R: 1 - N
[?]*Aethusa cynapium* L. - T scap - Eurosib. - 6?; an old record from Mt. Amiata near Santa Fiora (Santi in Caruel 1860-64); needs confirmation
Ammi majus L. ! - T scap - Teth. - C: 2,3,5,8 - N
Ammi visnaga (L.) Lam. ! - T scap - Teth. - C: 2,3,5 - N
Ammoides pusilla (Brot.) Breistr. ! - T scap - Medit. - R: 2,4,5 - N
[?]*Angelica sylvestris* L. - H scap - Bor. - 1?,6?; indicated from Mt. Amiata (Santi in Caruel 1860-64) and the Farma valley (Bergman in Chiarucci & al. 1993), but not supported by later observations
Anthriscus caucalis M.Bieb. - T scap - Teth.Eur. - R: 2,6,7 - N
Anthriscus nemorosa (M.Bieb.) Spreng. ! - H scap - Bor.Teth. - R: 7,8 - L
Anthriscus sylvestris (L.) Hoffm. ! - H scap - Holart.Paleotrop. - C: 1,5,6,7,8,9 - G
Apium graveolens L. - H scap - Subcosmop. - R: 2,4 - N
Apium nodiflorum (L.) Lag. ! - H scap - Holart.Paleotrop. - C: 2,3,4,5,7,8,9 - E
Berula erecta (Huds.) Coville ! - G rhiz - Holart. - R: 2,8 - E
Bunium bulbocastanum L. ! - G bulb - CW Medit. - R: 1,2,4,6,7 - G
Bupleurum baldense Turra subsp. *baldense* ! - T scap - CW Medit. Europ. - C: 1,2,4,5,7,9 - H
Bupleurum falcatum subsp. *cernuum* (Ten.) Arcang. ! - H scap - Mid Europ. - RR: 1 - G; Cornate di Gerfalco (HS 2133; Frignani & al. 2004)
Bupleurum gussonei (Arcang.) S. et B. Snogerup - T scap - Medit. - R: 4,7 - H
Bupleurum lancifolium Hornem. ! - T scap - Medit. - RR: 2,5 - N; wheat fields at Gabellino near Prata (HS 2658) and Trasubbie in the area of Scansano (Frignani & al. 2007)
Bupleurum praealtum L. ! - H scap - Eur.Medit. - R: 1,2,5,7,9 - G
Bupleurum tenuissimum L. ! - T scap - Eur.Medit. - L: 2,3,4 - B,N
[?]*Caucalis platycarpus* L. - T scap - Eur.Medit. - 5?; an old indication from Pereta (Santi in Caruel 1860-64 sub *C. daucooides* L.); needs confirmation
Chaerophyllum hirsutum L. ! - H scap - OroEurop. - RR: 6 - G; Mt. Amiata at the Ermicciolo spring (HS 0700; Selvi 1996)
Chaerophyllum temulum L. ! - T scap - Eur.Medit. - CC: 1,2,4,5,6,7,8,9 - G
Conium maculatum L. ! - H scap - Holart.Paleotrop. - R: 5,6,7,8 - N
Crithmum maritimum L. ! - Ch suffr - Medit.Atl. - L: 3,4 - B
Daucus broteri Ten. ! - T scap - CE Medit. - R: 2,5 - H

- Daucus carota* L. subsp. *carota* ! - H bienn - Subcosmop. - CC : 1,2,3,4,5,6,7,8,9 - N
- Daucus carota* subsp. *major* (Vis.) Arcang. - H bienn - Holart.Paleotrop. - R: 3 - N
- Daucus gingidium* subsp. *mauritanicus* (L.) Onno ! - H bienn - CW Medit. - L: 3,4 - B
- Daucus guttatus* Sm. - T scap - Medit. - RR: 4 - H; Burano lake (Angiolini & al. 2002)
- Echinophora spinosa* L. ! - H scap - Medit. - L: 3,4 - B
- Eryngium amethystinum* L. ! - H scap - MidEur.Medit. - R: 7 - G
- †*Eryngium barrelieri* Boiss. - H bienn - Endem. (Sardinia, Corsica and Ligurian-Tyrrhenian area) - (4,9); collected in former wet meadows at Chiarone near Capalbio (coll. *Sommier* 1892, FI!; *Sommier* 1892b), it has never been observed again in this area, and has probably disappeared
- Eryngium campestre* L. ! - H scap - Eur.Medit. - CC: 1,2,3,4,5,7,8,9 - G
- Eryngium maritimum* L. ! - G rhiz - Medit.Atl. - L: 3,4 - B
- Ferula communis* L. ! - H scap - Medit.Macar. - C: 2,3,4 - N
- Ferula glauca* L. ! - H scap - Medit. - R: 2,4,5 - C; limestone rocks and cliffs on Mt. Calvo near Ravi and Gavorrano (HS 2412; Selvi & Stefanini 2005), Mt. Penna near Selvena (Frignani & al. 2008) and Albegna near Rocconi (HS 2700)
- Ferulago campestris* (Besser) Grecescu ! - H scap - Europ. - C: 1,2,5,7,8 - G
- Foeniculum vulgare* Mill. ! - H scap - Medit. Ir.Tur. - CC: 1,2,3,4,5,7, 8,9 - N
- Hydrocotyle vulgaris* L. - I rad - Eur.Medit. - RR: 4 - E; very rare in the Burano lake (Angiolini & al. 2002)
- Kundmannia sicula* (L.) DC. ! - H scap - Medit. - L: 4,9 - G
- Myrrhoides nodosa* (L.) Cannon ! - T scap - Medit. - L: 5,7,9 - G,L; woods and scrub in the upper and mid Albegna valley, near Capalbio and in the area of Mt. Civitella-Mt. Penna near Castellazzara (Selvi 2000)
- Oenanthe aquatica* (L.) Poir. ! - H scap - Eurosib. - R: 8,9 - E
- Oenanthe fistulosa* L. ! - H scap - Eur.Medit. - R: 4,9 - E
- †*Oenanthe globulosa* L. - H scap - Medit. - (4); collected in the former wet area of the Talamone gulf (coll. *Martelli* 1892, FI!) and in the Orbetello lagoon (coll. *Sommier* 1892, FI!; *Sommier* 1892a), but never observed again in these areas and probably disappeared
- Oenanthe lachenalii* C.C. Gmel. ! - H scap - Europ. - L: 3,4 - B
- †*Oenanthe peucedanifolia* Pollich - H scap - Atl.MidEur. - (9); collected only once at the small Cutignolo lake near Capalbio (coll. *Sommier* 1905, FI!); the dramatic alteration of this biotope has probably caused the local extinction of this rare species
- Oenanthe pimpinelloides* L. ! - H scap - Eur.Medit. - C: 1,2,3,4,5,7,8,9 - G,L
- Oenanthe silaifolia* M.Bieb. ! - H scap - Teth.Eur. - C: 2,3,4,5,9 - G
- Opopanax chironium* (L.) W.D.J. Koch ! - H scap - Medit.Pont. - R: 3,5,7 - N
- Orlaya daucoides* (L.) Greuter ! - T scap - Medit. - C: 1,7,8 - N
- Orlaya grandiflora* (L.) Hoffm. ! - T scap - Eur.Medit. - C: 1,2,3,4,5,7,9 - N
- Pastinaca sativa* L. ! - H bienn - Eurosib. - R: 1,2,6 - N
- Peucedanum cervaria* (L.) Lapeyr. ! - H scap - Eurosib. - C: 1,2,5,7 - L
- Peucedanum oreoselinum* (L.) Moench ! - H scap - Europ. - C: 2,4,7 - L
- **Peucedanum ostruthium* (L.) Koch - an old, unreliable indication from Massa Marittima (Savi in Caruel 1860-64)
- Physospermum cornubiense* (L.) DC. ! - H scap - Europ. - L: 1,2 - L
- Pimpinella peregrina* L. ! - H bienn - Teth.Pont. - C: 2,4,5,7,8,9 - N

- Pimpinella saxifraga* L. ! - H scap - Eurosib. - RR: 7 - C; only known from the limestone cliff of Mt. Penna near Castellazzara (HS 1728)
- Pseudorhiza pumila* (L.) Grande ! - T scap - Medit. - L: 3,4 - B
- Ridolfia segetum* (L.) Moris ! - T scap - Medit. - RR: 2,9 - N; fields in the area of Capalbio and Grosseto near the Bruna river and Braccagni (Selvi & Sforzi 2005)
- Sanicula europaea* L. ! - H ros - Eurosib. OroMedit. - C: 1,2,6,7,8 - L
- Scandix pecten - veneris* L. ! - T scap - Teth.Eur. - C: 2,3,4,5,7,9 - N
- Seseli tortuosum* L. ! - H bienn - Medit.Pont. - C: 3,4,5,9 - B,G
- Sison amomum* L. ! - H bienn - Eur.Medit. - R: 1,3,6 - G
- Smyrniololus L.* ! - H bienn - Medit.Atl. - L: 2 - N
- Smyrniololus perfoliatum* L. ! - H bienn - Eur.Medit. - L: 1,5,6,7 - L,N
- Tordylium apulum* L. ! - T scap - Medit. - CC: 1,2,3,4,5,7,8,9 - N
- Tordylium maximum* L. ! - T scap - Teth.Eur. - R: 2,5,7 - N
- Torilis arvensis* (Huds.) Link subsp. *arvensis* - T scap - Teth.Eur. - C: 1,2,4,7 - N
- Torilis arvensis* subsp. *purpurea* (Ten.) Hayek ! - T scap - Medit. - C: 1,3,4,6,8 - N
- Torilis japonica* (Houtt.) DC. ! - T scap - Eurosib. SinoJap. - C: 1,2,5,6,7 - N
- Torilis leptophylla* (L.) Rchb.f. ! - T scap - Medit. Ir.Tur. - RR: 2,3 - N; Puntone di Follonica, Fiumara S. Leopoldo near Marina di Grosseto and Poggio di Moscona above Roselle (Selvi & Sforzi 2005)
- Torilis nodosa* (L.) Gaertn. ! - T scap - Teth.Eur. - C: 2,3,4,5,7 - N
- Trinia glauca* (L.) Dumort. ! - H scap - Europ. - R: 1,2,4,7,9 - G

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