

A second update to the checklist of the vascular flora alien to Italy

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ABSTRACT

Critical and updated alien species inventories are crucial to properly manage and contrast biological invasions. After 6 years, a second update to the inventory of the vascular flora alien to Italy is presented. It provides details on the occurrence at administrative regional level and, for the first time, floristic data for San Marino. The checklist includes 1782 taxa (1673 species, 28 subspecies, 69 hybrids and 12 cultivar groups not attributable to a specific binomial), distributed in 786 genera and 159 families; 2 taxa are lycophytes, 13 ferns and fern allies, 37 gymnosperms and 1730 angiosperms. Among these, 154 taxa are archaeophytes and 1628 neophytes. The alien taxa currently established in Italy are 899 (649 naturalized and 250 invasive), while 796 taxa are casual aliens, 1 is not assessed, 38 have not been confirmed in recent times, 4 are considered extinct or possibly extinct in the country, 40 are doubtfully occurring in Italy, 4 are of unknown regional distribution and 110 are reported by mistake and to be excluded at national level. This checklist allows to establish an up-to-date number (10,023) of taxa currently constituting the whole (either native or alien) Italian flora.

KEYWORDS

IAS; inventory; Mediterranean; non-native flora; plant invasion; systematics; taxonomy

Introduction

Critical and updated alien species inventories are crucial to properly manage and contrast biological invasions (Pyšek et al. 2018). Moreover, naturalization of alien plants threatens uniqueness of regional floras (Yang et al. 2021). Concerning vascular flora, such checklists are continuously being

published at global (van Kleunen et al. 2018), continental (Martín-Forés et al. 2023; Rojas-Sandoval et al. 2023) or national (Ansong et al. 2019; El-Beheiry et al. 2020; Meddour et al. 2020; Omer et al. 2021; Pant et al. 2021; Chang-Yang et al. 2022; Patzelt et al. 2022; Borokini et al. 2023; Csiky et al. 2023; Holmes et al. 2023; Khapugin et al. 2023; Sohrabi et al.

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2023; Sennikov and Lazkov 2024) levels. Checklists at national level, in particular, are useful to governative national agencies in charge of environmental protection (Pagad et al. 2018).

After the publication of the first checklist of the Italian vascular flora (Conti et al. 2005), two separate updated inventories for native and alien taxa were published (Bartolucci et al. 2018; Galasso et al. 2018, see also Peruzzi 2018) and made available online (Martellos et al. 2020, <http://dryades.units.it/floritaly>). Now time has come for a second update, for which we followed the same approach. Accordingly, this checklist of alien species growing wild in Italy complements that of the native flora (Bartolucci et al. 2024). A further update was necessary on the basis of the new floristic, systematic and taxonomic studies published in the meantime.

The aim of this contribution is to provide an updated inventory of the non-native vascular flora of Italy (including the enclave Republic of San Marino), to serve as a taxonomic and nomenclatural standard reference for botanical research and to promote new floristic investigations and biosystematic studies.

Materials and methods

In order to recognize the taxa as alien to Italy, we used the national standardized system followed by Galasso et al. (2018), based on the definitions provided by Pyšek et al. (2004) for: alien, casual alien, naturalized alien, invasive alien, archaeophytes, neophytes.

The systematic order and taxonomic circumscription of the families follow the classification proposed by PPG I (2016) for lycophytes, ferns and fern allies, by Christenhusz et al. (2011) for gymnosperms and by APG IV (2016) for angiosperms, with the exception of Dipsacales (Reveal 2011), Caryophyllales (Hernández-Ledesma et al. 2015), Boraginales (Luebert et al. 2016) and Celastrales (Simmons et al. 2023). The disputed family Chenopodiaceae was included in Amaranthaceae based on the recent molecular study by Morales-Briones et al. (2020).

Author citation of plant names was standardized according to Rec. 46A of the International Code of Nomenclature for algae, fungi and plants (Turland et al. 2018; hereafter ICN), i.e. IPNI (2023 onwards). The checklist includes also hybrids, while taxa at varietal rank were not considered. Cultivars or cultivar groups are considered only if they are not attributable to any species or subspecies; their nomenclature follows the International Code of Nomenclature for Cultivated Plants (Brickell et al. 2016).

The distribution of specific and subspecific taxa at regional scale was updated based on new data published in the period 2018–2023 in the series “Notulae to the Italian alien vascular Flora” (e.g. Galasso, Domina, Adorni, et al. 2023; Galasso, Domina, Argenti, et al. 2023), on the second edition of “Flora d’Italia” (Pignatti et al. 2017a, 2017b, 2018, 2019), on floristic contributions and taxonomic reviews, as well as regional inventories or national updates (e.g. Arrigoni 2016, 2017, 2018a, 2018b, 2019a, 2019b, 2020, 2021a, 2021b; Carta et al. 2018; Argenti et al. 2019; Prosser et al. 2019; Musarella et al. 2020; Rosati et al. 2020; Stinca et al. 2021; Alessandrini

et al. 2022; Mariotti and Zappa 2022; Spampinato et al. 2022; Capuano and Caruso 2023; Conti and Giacanelli 2023; Martini et al. 2023).

The distribution data (see Appendix S1) provided for each of the 20 administrative regions of Italy and for San Marino (Alessandrini et al. 2022) are coded as follows (see also Bartolucci et al. 2018; Galasso et al. 2018): VDA (Valle d’Aosta), PIE (Piemonte), LOM (Lombardia), TAA (Trentino-Alto Adige), VEN (Veneto), FVG (Friuli Venezia Giulia), LIG (Liguria), EMR (Emilia-Romagna), TOS (Toscana), MAR (Marche), UMB (Umbria), LAZ (Lazio), ABR (Abruzzo), MOL (Molise), PUG (Puglia), CAM (Campania), BAS (Basilicata), CAL (Calabria), SIC (Sicilia), SAR (Sardegna), RSM (San Marino). The Vatican City State was not considered. If the information concerning the distribution of a given subspecies for a region was missing, only the occurrence at species level was reported (Appendix S1).

For each region, the occurrence status of each taxon is provided by using the following categories:

- occurring as a casual alien: “CAS” in the main text, “A CAS” in Appendix S1;
- occurring with an undefined invasion status, possibly as casual alien: “CAS?” in the main text, “CAS?” (whole Italy) or “P A” (regional level) in Appendix S1;
- occurring as a naturalized alien: “NAT” in the main text, “P A NAT” in Appendix S1;
- occurring as an invasive alien: “INV” in the main text, “P A INV” in Appendix S1;
- no longer recorded (reliable historical record; unclear alien status): “NC” in the main text, “NC A” in Appendix S1;
- extinct or possibly extinct: “EX” in the main text, “EX A” in Appendix S1;
- data deficient (unknown regional distribution; unknown alien status): “DD” in the main text, “DD A” in Appendix S1;
- doubtfully occurring: “D” in the main text, “D A” in Appendix S1;
- recorded by mistake: “NP”.

Other abbreviations or symbols used in the list before the species/subspecies name are:

- taxonomically doubtful: “T”;
- archaeophyte: “A”;
- neophyte: “N”.

Taxa involved in former domestication processes have been distinguished in two categories (Galasso et al. 2018):

- culton (Hettterscheid and Brandenburg 1995): “CLT”;
- feral: “FER”.

The origin of each culton and feral is explained as follows:

- “Directly domesticated from”: when the crop selection took place from a single crop wild relative, without collateral genomic contributions. In this case, when available, the subspecies rank was used according to Harlan and de Wet (1971), Banfi et al. (2018), Banfi and Galasso (2021) and Del Guacchio and Caputo (2022);

- “Parentage”: when more than one wild taxon is involved during the crop selection processes. The parentage is also indicated for all hybrids.

Within each major taxonomic group, the families are alphabetically ordered. The same applies to genera within families, and to species and subspecies within genera. The taxa doubtfully occurring in Italy are indicated in italics only (not in bold italics). Taxonomic references concerning genera are added below the families. Notes on taxonomy, nomenclature and distribution are included in the list below each taxon. The lists of synonyms, misapplied and included names (Appendix S2), along with the list of taxa to be excluded at national level (Appendix S3) are available as [supplementary material](#).

Results

The checklist includes 1782 species, subspecies, hybrids, cultivars and cultivar groups (hereafter species), belonging to 786 genera and 159 families. The lycophytes are represented by 2 families, 2 genera, 2 species, while ferns and fern allies by 5 families, 9 genera and 13 species. Gymnosperms are represented by 6 families, 20 genera and 37 species. Angiosperms include 1730 species grouped in 754 genera and 146 families. The most represented families (≥ 50 taxa) and genera (≥ 20 taxa) are respectively (Table 1): Asteraceae (183), Poaceae (168), Fabaceae and Rosaceae (83), Amaranthaceae (63) and Solanaceae (60); *Oenothera* (31), *Amaranthus* (30), *Opuntia* (23), *Solanum* (22) and *Cyperus* (20).

The taxa currently established in Italy are 899 (649 naturalized, 250 invasive), 796 are casual, 1 are not assessed (possibly casual; *Melica altissima* L.), 4 are data deficient [unknown regional distribution, possibly casual: *Bambusa multiplex* (Lour.) Raeusch. ex Schult. & Schult.f., *Saxifraga hirsuta* L. subsp. *hirsuta*, *Tradescantia zebrina* hort. ex Bosse, *Triticum aestivum* subsp. *compactum* (Host) Mac Key]. While 38 species have not been confirmed in recent times, 4 are possibly extinct [*Petrorhagia obcordata* (Margot & Reut.)

Table 1. Most represented families (≥ 30 taxa) and genera (≥ 10 taxa) of the vascular flora alien to Italy and San Marino.

Families	Taxa	Genera	Taxa
Asteraceae	183	<i>Oenothera</i>	31
Poaceae	168	<i>Amaranthus</i>	30
Fabaceae	83	<i>Opuntia</i>	23
Rosaceae	83	<i>Solanum</i>	22
Amaranthaceae	63	<i>Cyperus</i>	20
Solanaceae	60	<i>Euphorbia</i>	19
Asparagaceae	47	<i>Centaurea</i>	16
Brassicaceae	45	<i>Eucalyptus</i>	16
Lamiaceae	42	<i>Cotoneaster</i>	15
Cactaceae	40	<i>Oxalis</i>	14
Onagraceae	36	<i>Triticum</i>	14
Crassulaceae	34	<i>Bidens</i>	13
Polygonaceae	34	<i>Narcissus</i>	13
Amaryllidaceae	33	<i>Rosa</i>	13
		<i>Phyllostachys</i>	12
		<i>Salvia</i>	12
		<i>Aloë</i>	11
		<i>Avena</i>	11
		<i>Symphotrichum</i>	11
		<i>Ipomoea</i>	10
		<i>Vitis</i>	10

Greuter & Burdet, *Plantago patagonica* Jacq., *Sagittaria platyphylla* (Engelm.) J.G.Sm., *Themeda triandra* Forssk.] and 40 are doubtfully occurring in the country (Table 2); 32 species are taxonomically doubtful and 110 were recorded by mistake (Appendix S3). Looking at the species involved in past domestication processes, 114 are culta, 62 are ferals, while one additional species is regarded as doubtful culton. Archaeophytes are 154, while neophytes are 1628 (Table 3).

Out of the 40 alien species of Union concern (Regulation [EU] 1143/2014, Commission Implementing Regulations [EU] 2016/1141, 2017/1263, 2019/1262 and 2022/1203), 22 (*Pistia stratioides* L. in force from 2 August 2024) occur in Italy, of which 18 are invasive at national level, while 3 (*Asclepias syriaca* L., *Cardiospermum grandiflorum* Sw. and *Koenigia polystachya* (Wall. ex Meisn.) T.M.Schust. & Reveal) are naturalized and 1 (*Salvinia molesta* D.S.Mitch.) is possibly eradicated.

The administrative regions showing the highest number of alien taxa are Lombardia (839, of which 390 established), Toscana (687, 315 established), Veneto (675, 279 established), Trentino-Alto Adige (648, 189 established), Emilia-Romagna (620, 272 established) and Piemonte (600, 333 established) (Table 2). Aliens of Union concern mostly occur in Toscana (16), Lombardia (15), Veneto (14), Emilia-Romagna (13), Piemonte (12), Friuli Venezia Giulia and Lazio (11) and Trentino-Alto Adige (10).

Table 2. Invasion status of taxa alien to Italy in each of the 20 administrative regions and San Marino. VDA (Valle d'Aosta), PIE (Piemonte), LOM (Lombardia), TAA (Trentino-Alto Adige), VEN (Veneto), FVG (Friuli Venezia Giulia), LIG (Liguria), EMR (Emilia-Romagna), TOS (Toscana), MAR (Marche), UMB (Umbria), LAZ (Lazio), ABR (Abruzzo), MOL (Molise), PUG (Puglia), CAM (Campania), BAS (Basilicata), CAL (Calabria), SIC (Sicilia), SAR (Sardegna), RSM (San Marino). CAS: casual alien, CAS?: possibly casual alien, DD: data deficient, NAT: naturalized alien, INV: invasive alien, NC: no longer recorded, EX: extinct or possibly extinct, D: doubtfully occurring.

	CAS	CAS?	DD	NAT	INV	NC	EX	D	Total
LOM	434	1	0	274	116	1	4	9	839
TOS	307	5	0	247	68	29	1	31	687
VEN	360	2	0	205	74	24	1	8	675
TAA	433	7	0	149	40	4	3	15	648
EMR	307	10	0	241	31	16	5	10	620
PIE	223	0	0	262	71	15	16	13	600
FVG	289	3	0	180	45	19	6	17	560
SAR	315	2	0	147	80	2	0	14	559
LIG	313	0	0	175	24	31	2	9	554
SIC	254	3	0	236	20	16	0	15	544
LAZ	308	1	0	160	44	16	0	11	539
CAM	262	0	0	140	48	1	4	18	473
MAR	228	4	0	113	41	22	2	8	418
PUG	246	0	0	124	20	13	1	10	413
CAL	237	1	0	120	49	0	0	1	412
ABR	221	0	0	131	35	5	0	4	397
UMB	198	6	0	88	15	1	0	11	319
BAS	144	0	0	81	20	4	0	6	255
MOL	101	2	0	74	26	0	0	4	207
VDA	75	1	0	62	21	8	1	8	176
RSM	28	6	0	42	5	17	0	0	97
ITA	796	1	4	649	250	38	4	40	1782

VDA (Valle d'Aosta), PIE (Piemonte), LOM (Lombardia), TAA (Trentino-Alto Adige), VEN (Veneto), FVG (Friuli Venezia Giulia), LIG (Liguria), EMR (Emilia-Romagna), TOS (Toscana), MAR (Marche), UMB (Umbria), LAZ (Lazio), ABR (Abruzzo), MOL (Molise), PUG (Puglia), CAM (Campania), BAS (Basilicata), CAL (Calabria), SIC (Sicilia), SAR (Sardegna), RSM (San Marino). CAS: casual alien, CAS?: possibly casual alien, DD: data deficient, NAT: naturalized alien, INV: invasive alien, NC: no longer recorded, EX: extinct or possibly extinct, D: doubtfully occurring.

Checklist of the vascular flora alien to Italy

	Lycophytes
	<u>Lycopodiaceae</u>
N CAS	<i>Lycopodiella cernua</i> (L.) Pic.Serm.
	<u>Selaginellaceae</u>
N CAS	<i>Selaginella kraussiana</i> (Kunze) A.Braun
	Ferns and fern allies
	<u>Dryopteridaceae</u>
N NAT	<i>Cyrtomium falcatum</i> (L.f.) C.Presl
N NAT	<i>Cyrtomium laetevirens</i> (Hiyama) Nakaike
N NAT	<i>Dryopteris cycadina</i> (Franch. & Sav.) C.Ch.
N NAT	<i>Polystichum polyblepharum</i> (Roem. ex Kunze) C.Presl
	<u>Nephrolepidaceae</u>
N NAT	<i>Nephrolepis cordifolia</i> (L.) C.Presl
	<u>Pteridaceae</u>
N CAS	<i>Onychium japonicum</i> (Thunb.) Kunze
N CAS	<i>Pteris multifida</i> Poir.
N CAS	<i>Pteris nipponica</i> W.C.Shieh
	Note: For the systematics of this species, see Jaruwattanaphan et al. (2013).
	<u>Salvinaceae</u>
	Taxonomic references: <i>Azolla</i> Lam. (Lastrucci et al. 2019; Brusa and Bona 2020).
N NAT	<i>Azolla cristata</i> Kaulf.
N INV	<i>Azolla filiculoides</i> Lam.
N CAS	<i>Salvinia minima</i> Baker
N NC	<i>Salvinia molesta</i> D.S.Mitch.
	Note: de la Sota (1995) pointed out that the earlier name <i>S. adnata</i> Desv. should replace <i>S. molesta</i> D.S.Mitch. However, Moran and Smith (1999) argued that <i>S. adnata</i> is of uncertain application, possibly pertaining to either <i>S. biloba</i> Raddi or <i>S. molesta</i> . Although Desvaux's type specimen is vegetative, de la Sota (2001) provided some hints for distinguishing <i>S. biloba</i> and <i>S. molesta</i> also from vegetative parts, demonstrating that the name <i>S. adnata</i> should be applied to the plants formerly known as <i>S. molesta</i> . Schwartzburd and Miranda (2017) proposed to reject this name, and their proposal was recommended by the Nomenclature Committee for Vascular Plants (Applequist 2019) and by the General Committee (Wilson 2022).
	<u>Thelypteridaceae</u>
	Taxonomic references: Fawcett and Smith (2021).
N CAS	<i>Christella dentata</i> (Forssk.) Brownsey & Jermy
	Gymnosperms
	<u>Cupressaceae</u>
N NAT	<i>Calocedrus decurrens</i> (Torr.) Florin
N CAS	<i>Chamaecyparis lawsoniana</i> (A.Murray) Parl.
N NAT	<i>Cryptomeria japonica</i> (L.f.) D.Don
A NAT	<i>Cupressus sempervirens</i> L.
N NAT	<i>Hesperocyparis arizonica</i> (Greene) Bartel
N NAT	<i>Hesperocyparis glabra</i> (Sudw.) Bartel
N NAT	<i>Hesperocyparis macrocarpa</i> (Hartw. ex Gordon) Bartel
N CAS	<i>Juniperus chinensis</i> L.
N CAS	<i>Juniperus virginiana</i> L.
N NAT	<i>Platycladus orientalis</i> (L.) Franco
N NAT	<i>Sequoia sempervirens</i> (D.Don) Endl.
N NAT	<i>Taxodium distichum</i> (L.) Rich.
N CAS	<i>Thuja occidentalis</i> L.
N CAS	<i>Thuja plicata</i> Donn ex D.Don
N CAS	<i>Thujopsis dolabrata</i> (Thunb. ex L.f.) Siebold & Zucc.
	<u>Cycadaceae</u>
N CAS	<i>Cycas revoluta</i> Thunb.
	<u>Ephedraceae</u>
N NAT	<i>Ephedra altissima</i> Desf.
	<u>Ginkgoaceae</u>
N CAS	<i>Ginkgo biloba</i> L.
	<u>Pinaceae</u>
N INV	<i>Abies cephalonica</i> Loudon
N CAS	<i>Abies grandis</i> (Douglas ex D.Don) Lindl.
N CAS	<i>Abies nordmanniana</i> (Steven) Spach subsp. <i>nordmanniana</i>
N NAT	<i>Cedrus atlantica</i> (Endl.) G.Manetti ex Carrière
N NAT	<i>Cedrus deodara</i> (Roxb. ex D.Don) G.Don
N CAS	<i>Larix kaempferi</i> (Lamb.) Carrière
	Note: In Veneto this species is only cultivated for reforestation.
N CAS	<i>Larix × marschlinii</i> Coaz
	Parentage: <i>L. decidua</i> Mill. × <i>L. kaempferi</i> (Lamb.) Carrière.
N CAS	<i>Cedrus libani</i> A.Rich. subsp. <i>libani</i>
N CAS	<i>Picea orientalis</i> (L.) Peterm.
N NAT	<i>Pinus canariensis</i> C.Sm. ex DC.
N CAS	<i>Pinus elliotii</i> Engelm.
N NAT	<i>Pinus halepensis</i> Mill. subsp. <i>brutia</i> (Ten.) Holmboe
A NAT	<i>Pinus pinea</i> L.
	Note: This species has been found to be genetically depauperate, putatively due to a population bottleneck in a local refugium during the Last Glacial Maximum in southern Iberia, and subsequent likely anthropic range expansion during Holocene (Mutke et al. 2019).
N NAT	<i>Pinus radiata</i> D.Don
N NAT	<i>Pinus rigida</i> Mill.

(Continued)

N NAT	<i>Pinus strobus</i> L.
N CAS	<i>Pinus wallichiana</i> A.B.Jacks.
N CAS	<i>Pseudotsuga menziesii</i> (Mirb.) Franco
	Note: In Friuli Venezia Giulia this species is only cultivated for reforestation (Poldini et al. 2001).
	Taxaceae
N CAS	<i>Cephalotaxus harringtonia</i> (Knight ex J.Forbes) K.Koch
	Angiosperms
	Acanthaceae
N CAS	<i>Acanthus arboreus</i> Forssk.
N CAS	<i>Dicliptera squarrosa</i> Nees
N D	<i>Justicia adhatoda</i> L.
N CAS	<i>Ruellia simplex</i> C.Wright
	Acoraceae
A NAT	<i>Acorus calamus</i> L.
	Actinidiaceae
N CAS	<i>Actinidia deliciosa</i> (A.Chev.) C.F.Liang & A.R.Ferguson
	Aizoaceae
	Taxonomic references: Hartmann (2017).
N INV	<i>Carpobrotus acinaciformis</i> (L.) L.Bolus
N NAT	<i>Carpobrotus aequilaterus</i> (Haw.) N.E.Br.
N INV	<i>Carpobrotus edulis</i> (L.) N.E.Br.
N NAT	<i>Delosperma cooperi</i> (Hook.f.) L.Bolus
N CAS	<i>Drosanthemum candens</i> (Haw.) Schwantes
N NAT	<i>Drosanthemum floribundum</i> (Haw.) Schwantes
N CAS	<i>Drosanthemum hispidum</i> (L.) Schwantes
N CAS	<i>Lampranthus deltoides</i> (L.) Glen ex Wijnands
N INV	<i>Lampranthus elegans</i> (Jacq.) Schwantes
N D	<i>Lampranthus falcatus</i> (L.) N.E.Br.
T N CAS	<i>Lampranthus roseus</i> (Willd.) Schwantes
N INV	<i>Malephora crocea</i> (Jacq.) Schwantes
N NAT	<i>Malephora lutea</i> (Haw.) Schwantes
N CAS	<i>Malephora purpureo crocea</i> (Haw.) Schwantes
N CAS	<i>Malephora uitenhagensis</i> (L.Bolus) H.Jacobsen & Schwantes
N INV	<i>Mesembryanthemum cordifolium</i> L.f.
N NAT FER	<i>Mesembryanthemum ×vascosilvae</i> (Gideon F.Sm., E.Laguna, Verloove & P.P.Ferrer) L.Sáez & Aymerich
	Parentage: <i>M. cordifolium</i> L.f. × <i>M. haeckelianum</i> A.Berger (Smith et al. 2020).
N NAT	<i>Ruschia tumidula</i> (Haw.) Schwantes
N NAT	<i>Tetragonia tetragonoides</i> (Pall.) Kuntze
	Alismataceae
N INV	<i>Sagittaria latifolia</i> Willd.
N EX	<i>Sagittaria platyphylla</i> (Engelm.) J.G.Sm.
	Altingiaceae
N CAS	<i>Liquidambar orientalis</i> Mill.
N CAS	<i>Liquidambar styraciflua</i> L.
	Amaranthaceae
	Taxonomic references: <i>Alternanthera</i> Forssk. (Sánchez-del Pino et al. 2012; Iamónico and Sánchez-del Pino 2015); <i>Amaranthus</i> L. (Iamónico 2015; Iamónico and Galasso 2018); <i>Salsola</i> L. (Rilke 1999; Kadereit et al. 2005; Mosyakin 2017).
N NAT	<i>Achyranthes aspera</i> L.
T N CAS	<i>Alternanthera maritima</i> (Mart.) A.St.-Hil.
	Note: This species is doubtfully distinct from <i>A. littoralis</i> P.Beauv.
T N CAS	<i>Alternanthera paronychioides</i> A.St.-Hil. subsp. <i>paronychioides</i>
	Note: This species is doubtfully distinct from <i>A. ficoidea</i> (L.) P.Beauv.
N INV	<i>Alternanthera philoxeroides</i> (Mart.) Griseb.
N CAS	<i>Alternanthera pungens</i> Kunth
N CAS	<i>Alternanthera tenella</i> Colla
N CAS	<i>Amaranthus acutifolius</i> Uline & W.L.Bray
N CAS	<i>Amaranthus ×aellenii</i> Cacciato nothosubsp. <i>aellenii</i>
	Parentage: <i>A. cacciatoi</i> (Aellen ex Cacciato) Iamónico × <i>A. hybridus</i> L. subsp. <i>cruentus</i> (L.) Thell.
N CAS	<i>Amaranthus ×aellenii</i> Cacciato nothosubsp. <i>monteluccii</i> (Cacciato) Iamónico & Galasso
	Parentage: <i>A. cacciatoi</i> (Aellen ex Cacciato) Iamónico × <i>A. hybridus</i> L. subsp. <i>hybridus</i> .
N INV	<i>Amaranthus albus</i> L.
N INV	<i>Amaranthus blitoides</i> S.Watson
T N INV	<i>Amaranthus bouchonii</i> Thell.
	Note: This species is doubtfully distinct from <i>A. powellii</i> S.Watson.
T N NAT	<i>Amaranthus cacciatoi</i> (Aellen ex Cacciato) Iamónico
	Note: This species, known only for the S-SE area of Rome (C-Italy) (Iamónico 2012), is doubtfully distinct from <i>A. powellii</i> S.Watson.
N D	<i>Amaranthus crassipes</i> Schldt. subsp. <i>crassipes</i>
N INV	<i>Amaranthus crispus</i> (Lesp. & Thénau) A.Braun ex S.Watson & J.M.Coult.
N INV	<i>Amaranthus deflexus</i> L.
T N NAT	<i>Amaranthus emarginatus</i> Salzm. ex Uline & W.L.Bray subsp. <i>emarginatus</i>
	Note: This species is doubtfully distinct from <i>A. blitum</i> L.
N CAS CLT	<i>Amaranthus hybridus</i> L. subsp. <i>caudatus</i> (L.) Iamónico & Galasso
	Parentage: <i>A. hybridus</i> L. subsp. <i>hybridus</i> , possibly with additional involvement of <i>A. hybridus</i> L. subsp. <i>quitensis</i> (Kunth) Costea & Carretero (S-America) (Stetter and Schmid 2017).
N INV FER	<i>Amaranthus hybridus</i> L. subsp. <i>cruentus</i> (L.) Thell.
	Note: Feral and culton of <i>A. hybridus</i> L. subsp. <i>hybridus</i> (C-America) (Stetter and Schmid 2017).
N INV	<i>Amaranthus hybridus</i> L. subsp. <i>hybridus</i>

(Continued)

N NAT FER	Amaranthus hybridus L. subsp. hypochondriacus (L.) Thell. Note: Feral and culton of <i>A. hybridus</i> L. subsp. <i>hybridus</i> (C-America) (Stetter and Schmid 2017).
N CAS	Amaranthus × mauritii Sennen Parentage: <i>A. deflexus</i> L. × <i>A. viridis</i> L.
N INV	Amaranthus muricatus (Moq.) Gillies ex Hieron.
N CAS	Amaranthus × ozanonii Thell. nothosubsp. ozanonii Parentage: <i>A. hybridus</i> L. subsp. <i>hybridus</i> × <i>A. retroflexus</i> L.
N CAS	Amaranthus × ozanonii Thell. nothosubsp. romanus (Iamónico) Iamónico & Galasso Parentage: <i>A. hybridus</i> L. subsp. <i>cruentus</i> (L.) Thell. × <i>A. retroflexus</i> L.
N NAT	Amaranthus palmeri S.Watson
N CAS	Amaranthus polygonoides L.
N INV	Amaranthus powellii S.Watson
N CAS	Amaranthus × pyxidatus (Contré) Iamónico Parentage: <i>A. cacciato</i> (Allen ex Cacciato) Iamónico × <i>A. retroflexus</i> L.
N INV	Amaranthus retroflexus L.
N CAS	Amaranthus × soproniensis Priszter & Kárpáti Parentage: <i>A. powellii</i> S.Watson × <i>A. retroflexus</i> L.
N CAS	Amaranthus spinosus L.
N NAT	Amaranthus tamariscinus Nutt.
N CAS CLT	Amaranthus tricolor L. Parentage: Unknown.
N INV	Amaranthus tuberculatus (Moq.) J.D.Sauer
N INV	Amaranthus viridis L.
A NAT FER	Atriplex hortensis L. subsp. hortensis Note: Feral of the same taxon, <i>A. hortensis</i> L. subsp. <i>hortensis</i> , in turn directly domesticated from <i>A. hortensis</i> L. subsp. <i>nitens</i> E.Pons (SE-Europe, SW-Asia).
A NAT	Atriplex hortensis L. subsp. nitens E.Pons
N CAS	Atriplex micrantha Ledeb. subsp. micrantha
N D	Atriplex oblongifolia Waldst. & Kit.
N INV	Bassia scoparia (L.) Voss
N NAT	Beta trigyna Waldst. & Kit.
A NAT FER	Beta vulgaris L. subsp. vulgaris Note: Feral of the same taxon, <i>Beta vulgaris</i> L. subsp. <i>vulgaris</i> , in turn directly domesticated from <i>B. vulgaris</i> L. subsp. <i>maritima</i> (L.) Arcang. (Mesopotamia).
N CAS	Blitum capitatum L.
N CAS	Celosia argentea L. Note: <i>Celosia cristata</i> L. is considered as a cultivar group derived from the selection of <i>C. argentea</i> , known only in cultivation or as casual alien (Clemants 2006).
N CAS	Chenopodium giganteum D.Don Note: For the nomenclature of this species, see Applequist (2023).
N CAS	Chenopodium hircinum Schrad.
N NC	Chenopodium pratericola Rydb.
N CAS	Chenopodium probstii Aellen
N NAT	Corispermum marschallii Steven
N INV	Dysphania ambrosioides (L.) Mosyakin & Clemants
N NAT	Dysphania anthelmintica (L.) Mosyakin & Clemants
N INV	Dysphania atriplicifolia (Spreng.) G.Kadereit, Sukhor. & Uotila
N NAT	Dysphania multifida (L.) Mosyakin & Clemants
N INV	Dysphania pumilio (R.Br.) Mosyakin & Clemants
N CAS	Dysphania schraderiana (Schult.) Mosyakin & Clemants
N NAT	Enchylaena tomentosa R.Br.
N NAT	Froelichia gracilis (Hook.) Moq.
N CAS CLT?	Gomphrena globosa L.
N CAS	Halogeton sativus (L.) Moq.
N NC	Salsola kali L.
A CAS CLT	Spinacia oleracea L. subsp. oleracea Note: Directly domesticated from <i>S. oleracea</i> L. subsp. <i>turkestanica</i> (Iljin) Del Guacchio & P.Caputo (Transcaspian Region) (Xu et al. 2017; Gyawali et al. 2021; She et al. 2022).
N CAS	Teloxys aristata (L.) Moq. <u>Amaryllidaceae</u> Taxonomic references: cultivar groups of <i>Narcissus</i> L. (The Daffodil Society 2023 onwards).
N CAS	Agapanthus praecox Willd. subsp. orientalis (F.M.Leight.) F.M.Leight.
N NAT	Allium ampeloprasum L.
A CAS CLT	Allium cepa L. Note: Directly domesticated from <i>A. vavilovii</i> Popov & Vved. (Transcaspian Region). The name <i>A. ascalonicum</i> L., traditionally misapplied to the shallot (<i>A. cepa</i> L. Aggregatum Group), is the priority name for <i>A. hierocontinum</i> Boiss., an eastern Mediterranean species.
A CAS CLT	Allium fistulosum L. Note: Directly domesticated from <i>A. altaicum</i> Pall. (Transcaspian Region).
N CAS	Allium giganteum Regel
N D	Allium moly L.
A CAS CLT	Allium porrum L. Note: Domesticated from within <i>A. ampeloprasum</i> complex (Egypt/Mesopotamia).
A CAS CLT	Allium sativum L. Note: Directly domesticated from <i>A. longicuspis</i> Regel (Transcaspian Region).
A NAT	Allium scorodoprasum L.
N NAT	Allium tuberosum Rottler ex Spreng.
N NAT	Amaryllis belladonna L.
N NAT	Galanthus elwesii Hook.f. subsp. elwesii

(Continued)

T N CAS	<i>Galanthus woronowii</i> Losinsk. Note: This species is doubtfully distinct from <i>G. ikariae</i> Baker.
N NAT	<i>Ipheion uniflorum</i> (Lindl.) Raf.
N NAT FER	<i>Narcissus</i> Cyclamineus Daffodil Group (Division 6) Note: Feral of the same cultivar group, <i>Narcissus</i> Cyclamineus Daffodil Group (Division 6). <i>Narcissus</i> "Cotinga" was recorded in Calabria (Laface et al. 2020). Parentage: Unknown, but surely including <i>N. cyclamineus</i> DC.; horticultural origin.
N CAS CLT	<i>Narcissus</i> × <i>cyclazetta</i> Chater & Stace nothosubsp. <i>cyclazetta</i> Parentage: (<i>N. cyclamineus</i> DC. × <i>N. tazetta</i> L. subsp. <i>tazetta</i>) × <i>N. tazetta</i> subsp. <i>tazetta</i> .
N NAT FER	<i>Narcissus</i> Double Daffodil Group (Division 4) Note: Feral of the same cultivar group, <i>Narcissus</i> Double Daffodil Group (Division 4). Parentage: Unknown, horticultural origin.
N CAS CLT	<i>Narcissus</i> Jonquilla and Apodanthus Daffodil Group (Division 7) Parentage: Unknown, but surely including species of <i>N. sect. Jonquilla</i> DC. or <i>N. sect. Apodanthi</i> A.Fern.; horticultural origin.
N CAS	<i>Narcissus jonquilla</i> L. subsp. <i>jonquilla</i>
N NAT FER	<i>Narcissus</i> Large-cupped Daffodil Group (Division 2) Note: Feral of the same cultivar group, <i>Narcissus</i> Large-cupped Daffodil Group (Division 2). Parentage: Unknown, horticultural origin.
N CAS	<i>Narcissus</i> × <i>odorus</i> L. nothosubsp. <i>odorus</i> Parentage: <i>N. jonquilla</i> L. × <i>N. pseudonarcissus</i> L. subsp. <i>pseudonarcissus</i> .
A NAT	<i>Narcissus papyraceus</i> Ker Gawl.
N CAS CLT	<i>Narcissus</i> Poëticus Daffodil Group (Division 9) Parentage: Unknown, but surely including species of the <i>N. poëticus</i> L. aggregate; horticultural origin.
N CAS CLT	<i>Narcissus</i> Small-cupped Daffodil Group (Division 3) Parentage: Unknown, horticultural origin.
N CAS CLT	<i>Narcissus</i> Tazetta Daffodil Group (Division 8) Parentage: Unknown, but surely including species of the <i>N. tazetta</i> L. aggregate; horticultural origin.
N CAS CLT	<i>Narcissus</i> Triandrus Daffodil Group (Division 5) Parentage: Unknown, but surely including <i>N. triandrus</i> L.; horticultural origin.
N NAT FER	<i>Narcissus</i> Trumpet Daffodil Group (Division 1) Note: Feral of the same cultivar group, <i>Narcissus</i> Trumpet Daffodil Group (Division 1). Parentage: Unknown, horticultural origin.
N CAS	<i>Nerine bowdenii</i> W.Watson subsp. <i>bowdenii</i>
N NAT	<i>Nothoscordum borbonicum</i> Kunth
N INV	<i>Nothoscordum gracile</i> (Aiton) Stearn Note: In some localities, this species could have been confused with <i>N. borbonicum</i> Kunth (see also Ravenna 1991).
N CAS	<i>Tulbaghia violacea</i> Harv.
N CAS	<i>Zephyranthes candida</i> (Lindl.) Herb.
N CAS	<i>Zephyranthes carinata</i> Herb. Note: This species may deserve separation into a distinct genus (Meerow et al. 2000).
	<u>Anacardiaceae</u> Taxonomic references: <i>Schinus</i> L. (Zona 2015).
N CAS	<i>Rhus chinensis</i> Mill.
N CAS	<i>Rhus laevigata</i> L.
N NAT	<i>Rhus typhina</i> L.
N NAT	<i>Schinus molle</i> L.
N CAS	<i>Schinus terebinthifolia</i> Raddi
N CAS	<i>Searsia pallens</i> (Eckl. & Zeyh.) Moffett
N CAS	<i>Toxicodendron pubescens</i> Mill.
N NAT	<i>Toxicodendron radicans</i> (L.) Kuntze subsp. <i>radicans</i>
	<u>Annonaceae</u>
N CAS	<i>Annona cherimola</i> Mill.
N CAS	<i>Asimina triloba</i> (L.) Dunal
	<u>Apiaceae</u> Taxonomic references: <i>Pastinaca</i> L. (Anzalone 1988).
A CAS	<i>Anethum graveolens</i> L.
A CAS	<i>Angelica archangelica</i> L. subsp. <i>archangelica</i>
A NAT	<i>Anthriscus cerefolium</i> (L.) Hoffm.
A NAT	<i>Bupleurum rotundifolium</i> L.
A CAS	<i>Chaerophyllum aromaticum</i> L.
N NAT	<i>Chaerophyllum bulbosum</i> L. subsp. <i>bulbosum</i>
A NAT	<i>Coriandrum sativum</i> L.
N NAT	<i>Cyclospermum leptophyllum</i> (Pers.) Sprague ex Britton & P.Wilson
A CAS CLT	<i>Daucus carota</i> L. subsp. <i>sativus</i> (Hoffm.) Schübl. & G.Martens Note: There is a specimen collected by Lanza in 1958 in the Apuan Alps (Toscana), but probably imported and cultivated (Arrigoni 2021b). According to Anzalone (1988), <i>P. kochii</i> s.l. was repeatedly reported by mistake in Sardegna (as <i>P. divaricata</i> Desf. ex DC.). Hence, cultivated and escaped plants reported by Arrigoni (2013) may have been confused with <i>P. sativa</i> L. subsp. <i>sativa</i> .
N NC	<i>Eryngium creticum</i> Lam.
N CAS	<i>Eryngium planum</i> L.
N INV	<i>Heracleum mantegazzianum</i> Sommier & Levier
A CAS	<i>Levisticum officinale</i> W.D.J.Koch
N CAS	<i>Microsciadium minutum</i> (d'Urv.) Briq.
N NAT	<i>Oenanthe javanica</i> (Blume) DC. subsp. <i>javanica</i>
N D	<i>Pastinaca kochii</i> Duby subsp. <i>latifolia</i> (Duby) Reduron
	Note: There is a specimen collected by Lanza in 1958 in the Apuan Alps (Toscana), but probably imported and cultivated (Arrigoni 2021b). According to Anzalone (1988), <i>P. kochii</i> s.l. was repeatedly reported by mistake in Sardegna (as <i>P. divaricata</i> Desf. ex DC.). Hence, cultivated and escaped plants reported by Arrigoni (2013) may have been confused with <i>P. sativa</i> L. subsp. <i>sativa</i> .
A NAT	<i>Petroselinum crispum</i> (Mill.) Fuss
A CAS	<i>Pimpinella anisum</i> L.
N NC	<i>Scandix australis</i> L. subsp. <i>grandiflora</i> (L.) Thell.
A CAS	<i>Sium sisarum</i> L.
N CAS	<i>Torilis ucranica</i> Spreng.
	<u>Apocynaceae</u>

(Continued)

N NAT	<i>Amsonia tabernaemontana</i> Walter
N INV	<i>Araujia sericifera</i> Brot.
	Note: For the nomenclature of this species, see Forster and Bruyns (1992).
N NAT	<i>Asclepias curassavica</i> L.
N INV	<i>Asclepias fruticosa</i> L.
N NAT	<i>Asclepias physocarpa</i> (E.Mey.) Schltr.
N NAT	<i>Asclepias syriaca</i> L.
N CAS	<i>Asclepias tuberosa</i> L.
N NAT	<i>Carissa macrocarpa</i> (Eckl.) A.DC.
N NAT	<i>Cascabela thevetia</i> (L.) Lippold
N NAT	<i>Catharanthus roseus</i> (L.) G.Don
N CAS	<i>Trachelospermum jasminoides</i> (Lindl.) Lem.
	Araceae
A NAT	<i>Colocasia esculenta</i> (L.) Schott
N NAT	<i>Landoltia punctata</i> (G.Mey.) Les & D.J.Crawford
N NAT	<i>Lemna aequinoctialis</i> Welw.
N INV	<i>Lemna minuta</i> Kunth
N CAS	<i>Lemna valdiviana</i> Phil.
N CAS	<i>Pinellia ternata</i> (Thunb.) Ten. ex Breitenb.
N INV	<i>Pistia stratiotes</i> L.
N NAT	<i>Wolffia columbiana</i> H.Karst.
N INV	<i>Zantedeschia aethiopica</i> (L.) Spreng.
	Araliaceae
	Taxonomic references: <i>Hedera</i> L. (McAllister and Rutherford 1997; Ackerfield and Wen 2002; Marshall et al. 2017).
N CAS	<i>Aralia spinosa</i> L.
N CAS	<i>Fatsia japonica</i> (Thunb.) Decne. & Planch.
N NAT	<i>Hedera algeriensis</i> Rantonnet ex C.Morren
N NAT	<i>Hedera canariensis</i> Willd.
N NAT	<i>Hedera hibernica</i> (G.Kirchn.) Bean
N NAT	<i>Hedera ×sepulcralis</i> R.H.Marshall & McAll.
	Parentage: <i>H. algeriensis</i> Rantonnet ex C.Morren × <i>H. hibernica</i> (G.Kirchn.) Bean.
N CAS	<i>Heptapleurum arboricola</i> Hayata
N CAS	<i>Hydrocotyle bonariensis</i> Comm. ex Lam.
N INV	<i>Hydrocotyle ranunculoides</i> L.f.
N NAT	<i>Hydrocotyle sibthorpioides</i> Lam.
N CAS	<i>Tetrapanax papyrifer</i> (Hook.) K.Koch
	Arecaceae
N CAS	<i>Brahea armata</i> S.Watson
N CAS	<i>Chamaedorea elatior</i> Mart.
N NAT	<i>Phoenix canariensis</i> H.Wildpret
	Note: <i>Phoenix canariensis</i> H.Wildpret is a conserved name against <i>P. cycadifolia</i> Regel.
A CAS CLT	<i>Phoenix dactylifera</i> L.
	Note: Directly domesticated from the same species, <i>P. dactylifera</i> L., along two domestication agrolines: western and eastern chlorotype with a W-E gradient from Mauritania to Oman (Pintaud et al. 2013).
N CAS	<i>Phoenix roebelenii</i> O'Brien
N CAS	<i>Raphia farinifera</i> (Gaertn.) Hyl.
N CAS	<i>Syagrus romanzoffiana</i> (Cham.) Glassman
N INV FER	<i>Trachycarpus fortunei</i> (Hook.) H.Wendl.
	Note: Feral and culton of the same species (China).
N NAT	<i>Washingtonia filifera</i> (Glöner ex Kerch., Burv., Pynaert, Rodigas & Hull) de Bary
T N NAT	<i>Washingtonia robusta</i> H.Wendl.
	Note: This species is doubtfully distinct from <i>W. filifera</i> (Glöner ex Kerch., Burv., Pynaert, Rodigas & Hull) de Bary (Villanueva-Almanza et al. 2018, 2021).
	Asparagaceae
	Taxonomic references: <i>Agave</i> L. (Hochstätter 2015; Verloove et al. 2019); <i>Hyacinthoides</i> Heist. ex Fabr. (Geerinck 1997).
N INV FER	<i>Agave americana</i> L. subsp. americana
	Note: Feral of the same taxon, in turn directly domesticated from <i>A. americana</i> L. subsp. <i>protamericana</i> Gentry (Mexico).
N NAT	<i>Agave angustifolia</i> Haw. subsp. angustifolia
N NAT	<i>Agave attenuata</i> Salm-Dyck subsp. attenuata
N CAS	<i>Agave filifera</i> Salm-Dyck
N INV FER	<i>Agave fourcroydes</i> Lem.
	Note: Feral of the same taxon, it is a sterile clone in turn probably directly domesticated from <i>A. angustifolia</i> Haw. (Verloove et al. 2019).
N CAS FER	<i>Agave franzosinii</i> (Sprenger) Sewell
	Note: Feral of the same taxon of horticultural origin and unknown in the wild, related to the widely cultivated <i>A. americana</i> L. s.l. (Thiede 2017).
N INV	<i>Agave ingens</i> A.Berger
N INV	<i>Agave salmiana</i> Otto ex Salm-Dyck subsp. ferox (K.Koch) Hochstätter
N NAT FER	<i>Agave sisalana</i> Perrine
	Note: Same taxon, it is a sterile pentaploid clone in turn probably directly domesticated from <i>A. angustifolia</i> Haw. s.l. (Yucatan Peninsula, Mexico; Trejo-Torres et al. 2018; Verloove et al. 2019).
N NAT	<i>Albica canadensis</i> (L.) F.M.Leight.
N CAS	<i>Asparagus aethiopicus</i> L.
	Note: Some authors segregate the genera <i>Elide</i> Medik. and <i>Protasparagus</i> Oberm. from <i>Asparagus</i> L. (Fukuda et al. 2005).
N NAT	<i>Asparagus asparagoides</i> (L.) Druce
N CAS	<i>Asparagus falcatus</i> L.
N NAT	<i>Asparagus setaceus</i> (Kunth) Jessop
N CAS	<i>Aspidistra elatior</i> Blume
N NAT	<i>Chlorophytum comosum</i> (Thunb.) Jacques

(Continued)

N CAS	<i>Cordylina australis</i> (G.Forst.) Endl.
N CAS	<i>Danaë racemosa</i> (L.) Moench
N NAT	<i>Dracaena draco</i> (L.) L. subsp. draco
N NAT	<i>Honorius boucheanus</i> (Kunth) Holub
N NAT	<i>Honorius nutans</i> (L.) Gray
N CAS	<i>Hosta plantaginea</i> (Lam.) Asch.
N NAT	<i>Hosta ventricosa</i> Stearn
N CAS	<i>Hosta venusta</i> F.Maek.
N NAT	<i>Hyacinthoides hispanica</i> (Mill.) Rothm.
N CAS	<i>Hyacinthoides</i> × <i>massartiana</i> Geerinck
	Parentage: <i>H. hispanica</i> (Mill.) Rothm. × <i>H. non-scripta</i> (L.) Chouard ex Rothm.
N NAT	<i>Hyacinthoides non-scripta</i> (L.) Chouard ex Rothm.
A CAS	<i>Hyacinthus orientalis</i> L.
N NAT	<i>Liriope spicata</i> (Thunb.) Lour.
N NAT	<i>Muscari armeniacum</i> Leichtlin ex Baker
N NC	<i>Muscari macrocarpum</i> Sweet
N D	<i>Muscari racemosum</i> (L.) Mill.
N NAT	<i>Nectaroscilla hyacinthoides</i> (L.) Parl.
N CAS	<i>Oncostema peruvianum</i> (L.) Speta
N CAS	<i>Ophiopogon japonicus</i> (L.f.) Ker Gawl.
N CAS	<i>Othocallis amoena</i> (L.) Trávn.
N CAS	<i>Othocallis siberica</i> (Haw.) Speta
N CAS	<i>Reineckea carnea</i> (Andrews) Kunth
N CAS	<i>Ruscus</i> × <i>microglossus</i> Bertol.
	Parentage: <i>R. hypoglossum</i> L. × <i>R. hypophyllum</i> L.
N CAS	<i>Scilla luciliae</i> (Boiss.) Speta
N NAT	<i>Stellarioides longibracteata</i> (Jacq.) Speta
N CAS	<i>Triteleia laxa</i> Benth.
N NAT	<i>Yucca aloifolia</i> L.
N CAS	<i>Yucca filamentosa</i> L.
N CAS	<i>Yucca gigantea</i> Lem.
N INV	<i>Yucca gloriosa</i> L.
T N NAT	<i>Yucca recurvifolia</i> Salisb.
	Note: This species is doubtfully distinct from <i>Y. gloriosa</i> L. (Hess and Robbins 2002).
	<u>Asphodelaceae</u>
	Taxonomic references: <i>Aloë</i> L. s.str. and <i>Aloiampelos</i> Klopper & Gideon F.Sm. (Grace et al. 2013).
N CAS	<i>Aloë africana</i> Mill.
N NAT	<i>Aloë arborescens</i> Mill.
N CAS	<i>Aloë brachystachys</i> Baker
N NAT FER	<i>Aloë</i> × <i>caesia</i> Salm-Dyck
	Parentage: <i>A. arborescens</i> Mill. × <i>A. ferox</i> Mill.
N CAS	<i>Aloë humilis</i> (L.) Mill.
N NAT	<i>Aloë maculata</i> All. subsp. maculata
N NAT	<i>Aloë perfoliata</i> L.
N NAT	<i>Aloë reynoldsii</i> Letty
N CAS	<i>Aloë striata</i> Haw. subsp. striata
N CAS	<i>Aloë striatula</i> Haw.
A NAT	<i>Aloë vera</i> (L.) Burm.f.
N CAS	<i>Aloiampelos ciliaris</i> (Haw.) Klopper & Gideon F.Sm.
N CAS	<i>Bulbine asphodeloides</i> (L.) Spreng.
N CAS	<i>Gasteria carinata</i> (Mill.) Duval
N NAT	<i>Hemerocallis fulva</i> (L.) L.
N CAS	<i>Kniphofia uvaria</i> (L.) Oken
N CAS	<i>Phormium tenax</i> J.R.Forst. & G.Forst.
	<u>Asteraceae</u>
	Taxonomic references: <i>Bidens</i> L. (incl. <i>Coreopsis</i> L. and <i>Cosmos</i> Cav.) (Banfi et al. 2018); <i>Erigeron annuus</i> s.l. and <i>E. lilacinus</i> (Sennikov and Kurtto 2019; Sennikov et al. 2020); <i>Euthamia</i> (Nesom 2021); <i>Gamochoeta</i> Wedd. (Urtubey et al. 2016; Freire et al. 2021; Nesom 2022; Verloove et al. 2023); <i>Gnaphalium</i> L. (incl. <i>Pseudognaphalium</i> Kirp.) (Nie et al. 2016); <i>Helichrysum</i> Mill. (incl. <i>Anaphalis</i> DC. and <i>Laphangium</i> (Hilliard & B.L.Burt) Tzvelev) (Galbany-Casals et al. 2014; Nie et al. 2016); <i>Pentanema</i> (Gutiérrez-Larruscain et al. 2018); <i>Soliva</i> Ruiz & Pav. (Webb 1986; Watson 2006).
N CAS	<i>Achillea crithmifolia</i> Waldst. & Kit.
N NAT	<i>Achillea filipendulina</i> Lam.
N NAT	<i>Ageratina adenophora</i> (Spreng.) R.M.King & H.Rob.
N NAT	<i>Ageratina altissima</i> (L.) R.M.King & H.Rob.
N CAS	<i>Ageratina havanensis</i> (Kunth) R.M.King & H.Rob.
N CAS	<i>Ageratina ligustrina</i> (DC.) R.M.King & H.Rob.
N CAS	<i>Ageratum conyzoides</i> L.
N CAS	<i>Ageratum houstonianum</i> Mill.
N INV	<i>Ambrosia artemisiifolia</i> L.
N INV	<i>Ambrosia psilostachya</i> DC.
N NAT	<i>Ambrosia tenuifolia</i> Spreng.
N INV	<i>Ambrosia trifida</i> L.
N CAS	<i>Anthemis ruthenica</i> M.Bieb.
N INV	<i>Arctotheca calendula</i> (L.) Levyns
N CAS	<i>Arctotheca prostrata</i> (Salisb.) Britten

(Continued)

N CAS	<i>Argyranthemum frutescens</i> (L.) Sch.Bip. subsp. frutescens
N CAS	<i>Argyranthemum pinnatifidum</i> (L.f.) Webb
A CAS	<i>Artemisia abrotanum</i> L.
N INV	<i>Artemisia annua</i> L.
N CAS	<i>Artemisia austriaca</i> Jacq.
N CAS	<i>Artemisia biennis</i> Willd.
A CAS	<i>Artemisia dracunculus</i> L.
A CAS	<i>Artemisia pontica</i> L.
N NAT	<i>Artemisia scoparia</i> Waldst. & Kit.
N CAS	<i>Artemisia tournefortiana</i> Rchb.
N INV	<i>Artemisia verlotiorum</i> Lamotte
N CAS	<i>Aster ageratoides</i> Turcz.
	Note: For the taxonomy of this species, see Ito and Soejima (1995).
N INV	<i>Baccharis halimifolia</i> L.
	Note: This species has been completely eradicated in Liguria (Mariotti and Zappa 2022).
N INV	<i>Bidens aurea</i> (Aiton) Sherff
N INV	<i>Bidens bipinnata</i> L.
N INV	<i>Bidens connata</i> Muhl. ex Willd.
N CAS	<i>Bidens formosa</i> (Bonato) Sch.Bip.
N INV	<i>Bidens frondosa</i> L.
N NAT	<i>Bidens lanceolata</i> (L.) Banfi, Galasso & Bartolucci
N NAT	<i>Bidens pilosa</i> L.
N CAS	<i>Bidens radiata</i> Thuill.
N INV	<i>Bidens subalternans</i> DC.
N CAS	<i>Bidens sulphurea</i> (Cav.) Sch.Bip.
N CAS	<i>Bidens tinctoria</i> (Nutt.) Baill. ex Sennikov
N CAS	<i>Bidens triplinervia</i> Kunth
N INV	<i>Bidens vulgata</i> Greene
A NAT FER	<i>Calendula officinalis</i> L.
	Note: Feral of the same species, <i>C. officinalis</i> L., in turn directly domesticated from <i>C. suffruticosa</i> Vahl subsp. <i>fulgida</i> (Raf.) Guadagno (N-Africa).
N CAS	<i>Callistephus chinensis</i> (L.) Nees
N CAS	<i>Carduus hamulosus</i> Ehrh. subsp. hamulosus
A CAS	<i>Carthamus tinctorius</i> L.
N NAT	<i>Centaurea acaulis</i> L.
N D	<i>Centaurea babylonica</i> (L.) L.
A NAT	<i>Centaurea cyanus</i> L.
N NAT	<i>Centaurea decipiens</i> Thuill.
N NC	<i>Centaurea depressa</i> M.Bieb.
N CAS	<i>Centaurea diffusa</i> Lam.
N INV	<i>Centaurea diluta</i> Aiton
N CAS	<i>Centaurea hyalolepis</i> Boiss. subsp. hyalolepis
N NC	<i>Centaurea iberica</i> Trevir. ex Spreng. subsp. iberica
N NC	<i>Centaurea kanitziana</i> Janka ex D.Brândză
N CAS	<i>Centaurea macrocephala</i> Muss.Puschk. ex Willd.
N CAS	<i>Centaurea orientalis</i> L.
N NC	<i>Centaurea phrygia</i> L. subsp. phrygia
N CAS	<i>Centaurea pullata</i> L. subsp. pullata
N NC	<i>Centaurea ragusina</i> L. subsp. ragusina
N CAS	<i>Centaurea salonitana</i> Vis.
N CAS	<i>Chamaemelum nobile</i> (L.) All.
N CAS CLT	<i>Chrysanthemum morifolium</i> (Ramat.) Hemsl.
	Parentage: Under this species there is an enormous hybrid complex developed in China over many centuries from multiple hybridizations involving several paternal species (including <i>C. indicum</i> L.), with an extinct species and its subsequent cultivars serving as the maternal parents (Ma et al. 2020).
A CAS CLT	<i>Cichorium endivia</i> L. subsp. endivia
	Note: Directly domesticated from <i>C. endivia</i> L. subsp. <i>pumilum</i> (Jacq.) Cout. (Egypt-Middle East).
N NAT	<i>Cota austriaca</i> (Jacq.) Sch.Bip.
N NAT	<i>Cotula australis</i> (Sieber ex Spreng.) Hook.f.
N INV	<i>Cotula coronopifolia</i> L.
N D	<i>Crepis aspera</i> L.
N NAT	<i>Crepis dioscoridis</i> L.
N INV	<i>Crepis sancta</i> (L.) Bornm. subsp. nemausensis (P.Fourn.) Babç.
N CAS	<i>Curio talinoides</i> (DC.) P.V.Heath
N CAS	<i>Dahlia imperialis</i> Roezl ex Ortgies
N NAT	<i>Delairea odorata</i> Lem.
N NAT	<i>Dichrocephala integrifolia</i> (L.f.) Kuntze
N D	<i>Dimorphotheca barberae</i> Harv.
N CAS	<i>Dimorphotheca ecklonis</i> DC.
N CAS	<i>Dimorphotheca fruticosa</i> (L.) Less.
N CAS	<i>Echinacea purpurea</i> (L.) Moench
N CAS	<i>Echinops strigosus</i> L.
N INV	<i>Eclipta prostrata</i> (L.) L.
N NAT	<i>Erechtites hieraciifolius</i> (L.) Raf. ex DC.
N INV	<i>Erigeron annuus</i> (L.) Desf. subsp. annuus
	Note: According to Sennikov and Kurtto (2019), <i>E. annuus</i> subsp. <i>septentrionalis</i> (Fernald & Wiegand) Wagenitz corresponds to <i>E. annuus</i> subsp. <i>annuus</i> .
N NAT	<i>Erigeron annuus</i> (L.) Desf. subsp. strigosus (Muhl. ex Willd.) Wagenitz

(Continued)

N INV	<i>Erigeron bonariensis</i> L.
N INV	<i>Erigeron canadensis</i> L.
T N CAS	<i>Erigeron floribundus</i> (Kunth) Sch.Bip.
N INV	<i>Erigeron karvinskianus</i> DC.
N NAT	<i>Erigeron lilacinus</i> (Sennikov & Kurtto) Sennikov
N INV	<i>Erigeron philadelphicus</i> L.
N INV	<i>Erigeron sumatrensis</i> Retz.
N CAS	<i>Eriocephalus africanus</i> L.
N NAT	<i>Euthamia lanceolata</i> (L.) G.L.Nesom
N CAS CLT	<i>Gaillardia</i> × <i>grandiflora</i> Van Houtte Parentage: <i>G. aristata</i> Pursh × <i>G. pulchella</i> Foug.
N INV	<i>Galinoga parviflora</i> Cav.
N INV	<i>Galinoga quadriradiata</i> Ruiz & Pav.
N NAT	<i>Gamochaeta americana</i> (Mill.) Wedd. Note: Recently <i>Gamochaeta impatiens</i> G.L.Nesom has been distinguished from <i>G. americana</i> (= <i>G. coarctata</i> (Willd.) Kerguelén) (Nesom 2022), so that the records referred to this species should be further studied.
N NAT	<i>Gamochaeta antillana</i> (Urb.) Anderb.
T N NAT	<i>Gamochaeta argyrinea</i> G.L.Nesom Note: This species is doubtfully distinct from <i>G. americana</i> (Mill.) Wedd. (Freire et al. 2021).
N NAT	<i>Gamochaeta pensylvanica</i> (Willd.) Cabrera
N CAS CLT	<i>Gazania</i> Hybrida Group Parentage: Unknown.
N CAS	<i>Gazania linearis</i> (Thunb.) Druce
N NAT	<i>Gazania rigens</i> (L.) Gaertn.
N NAT FER	<i>Gazania</i> × <i>splendens</i> Hend. & Andr.Hend. Parentage: Possibly <i>G. krebsiana</i> Less. × <i>G. linearis</i> (Thunb.) Druce × <i>G. rigens</i> (L.) Gaertn.
N NAT	<i>Gnaphalium undulatum</i> L.
N CAS	<i>Grindelia ciliata</i> (Nutt.) Spreng.
N CAS	<i>Grindelia hirsutula</i> Hook. & Arn.
N CAS	<i>Grindelia squarrosa</i> (Pursh) Dunal
N NAT	<i>Guizotia abyssinica</i> (L.f.) Cass.
N INV	<i>Gymnocoronis spilanthoides</i> (D.Don ex Hook. & Arn.) DC.
N CAS	<i>Helenium amarum</i> (Raf.) H.Rock
N CAS CLT	<i>Helianthus annuus</i> L. subsp. annuus Note: Directly domesticated from <i>H. annuus</i> L. subsp. <i>petiolaris</i> (Nutt.) Anashch. (central E-USA).
N D	<i>Helianthus debilis</i> Nutt. subsp. <i>cucumerifolius</i> (Torr. & A.Gray) Heiser
N CAS	<i>Helianthus decapetalus</i> L.
N D	<i>Helianthus giganteus</i> L.
N NAT	<i>Helianthus</i> × <i>laetiflorus</i> Pers. Parentage: <i>H. tuberosus</i> L. × <i>H. pauciflorus</i> Nutt.
N D	<i>Helianthus</i> × <i>multiflorus</i> L. nothosubsp. <i>multiflorus</i> Parentage: <i>H. annuus</i> L. subsp. <i>annuus</i> × <i>H. decapetalus</i> L.
N NAT	<i>Helianthus pauciflorus</i> Nutt.
N INV	<i>Helianthus tuberosus</i> L.
N CAS	<i>Helichrysum margaritaceum</i> (L.) Moench
T N CAS	<i>Heliopsis helianthoides</i> (L.) Sweet subsp. scabra (Dunal) T.R.Fisher Note: This subspecies is doubtfully distinct from <i>H. helianthoides</i> (L.) Sweet subsp. <i>helianthoides</i> .
N CAS	<i>Hertia cheirifolia</i> (L.) Kuntze
N CAS	<i>Kleinia anteuophorbium</i> (L.) Haw.
N CAS	<i>Kleinia neriifolia</i> Haw.
T N CAS	<i>Lactuca macrophylla</i> (Willd.) A.Gray
A CAS CLT	<i>Lactuca sativa</i> L. subsp. sativa Note: Directly domesticated from <i>L. sativa</i> L. subsp. <i>serriola</i> (L.) Galasso, Banfi, Bartolucci & Ardenghi (Caucasus, ca. 4000 BC) (Wei et al. 2021).
N NAT	<i>Lapsana communis</i> L. subsp. intermedia (M.Bieb.) Hayek
N CAS	<i>Leucanthemella serotina</i> (L.) Tzvelev
N NAT FER	<i>Leucanthemum</i> × superbum (Bergmans ex J.W.Ingram) D.H.Kent Parentage: <i>L. cf. ircutianum</i> DC. (Europe) × <i>L. maximum</i> (Ramond) DC. (Europe) → <i>L. lacustre</i> (Brot.) Samp. (W-Europe) → <i>L. nipponicum</i> Franch. ex Maxim. (≡ <i>Nipponanthemum nipponicum</i> (Franch. ex Maxim.) Kitam., Japan).
N INV	<i>Matricaria discoidea</i> DC. subsp. discoidea
N CAS	<i>Mauranthemum paludosum</i> (Poir.) Vogt & Oberpr. subsp. paludosum Note: Recorded by Adolphi and Nowack (1992).
N CAS	<i>Montanoa bipinnatifida</i> (Kunth) K.Koch
N NAT	<i>Osteospermum moniliferum</i> L. subsp. moniliferum
N NAT	<i>Pascalina glauca</i> Ortega
N CAS	<i>Pentanema germanicum</i> (L.) D.Gut.Larr., Santos-Vicente, Anderb., E.Rico & M.M.Mart.Ort.
N CAS	<i>Picris rhagadioloides</i> (L.) Desf.
N CAS	<i>Ratibida pinnata</i> (Vent.) Barnhart
N CAS	<i>Rhaponticum repens</i> (L.) Hidalgo
N NAT	<i>Roldana petasitis</i> (Sims) H.Rob. & Brettell
N NAT	<i>Rudbeckia fulgida</i> Aiton
N NAT	<i>Rudbeckia hirta</i> L.
N NAT	<i>Rudbeckia laciniata</i> L.
N NAT	<i>Rudbeckia triloba</i> L.
N NAT	<i>Santolina chamaecyparissus</i> L.
N NAT	<i>Santolina virens</i> Mill.
N INV	<i>Senecio angulatus</i> L.f.
N CAS	<i>Senecio crassiflorus</i> (Poir.) DC.
N INV	<i>Senecio deltoideus</i> Less.

(Continued)

N INV	<i>Senecio inaequidens</i> DC.
N CAS	<i>Senecio leucanthemifolius</i> Poir. subsp. vernalis (Waldst. & Kit.) Greuter
N CAS	<i>Senecio linifolius</i> L.
	Note: This species was confused with <i>S. inaequidens</i> DC. in Abruzzo (Viegi et al. 1990).
N INV	<i>Senecio pterophorus</i> DC.
	Note: For the identification of this species, see Verloove et al. (2007).
N NAT	<i>Sigesbeckia orientalis</i> L.
N NAT	<i>Silphium perfoliatum</i> L.
N INV	<i>Solidago canadensis</i> L.
N INV	<i>Solidago gigantea</i> Aiton
N CAS	<i>Solidago</i> × <i>niederederi</i> Khek nothosubsp. niederederi
	Parentage: <i>S. canadensis</i> L. × <i>S. virgaurea</i> L. subsp. <i>virgaurea</i> .
N NAT	<i>Soliva sessilis</i> Ruiz & Pav.
N NAT	<i>Soliva stolonifera</i> (Brot.) Loudon
N CAS	<i>Stevia rebaudiana</i> (Bertonii) Bertoni
N CAS	<i>Symphotrichum ericoides</i> (L.) G.L.Nesom
N CAS	<i>Symphotrichum laeve</i> (L.) Á.Löve & D.Löve
N INV	<i>Symphotrichum lanceolatum</i> (Willd.) G.L.Nesom
N NAT	<i>Symphotrichum lateriflorum</i> (L.) Á.Löve & D.Löve
N NAT	<i>Symphotrichum novae-angliae</i> (L.) G.L.Nesom
N NAT	<i>Symphotrichum novi-belgii</i> (L.) G.L.Nesom
N D	<i>Symphotrichum ontarionis</i> (Wiegand) G.L.Nesom
	Note: According to Dirkse et al. (2014), the name <i>S. parviflorum</i> (Nees) Greuter, neither cited in Flora of North America (Brouillet et al. 2006) nor yet typified, is a synonym of <i>S. ontarionis</i> .
N INV	<i>Symphotrichum pilosum</i> (Willd.) G.L.Nesom
T N NAT	<i>Symphotrichum</i> × <i>salignum</i> (Willd.) G.L.Nesom
	Parentage: <i>S. lanceolatum</i> (Willd.) G.L.Nesom × <i>S. novi-belgii</i> (L.) G.L.Nesom.
N INV	<i>Symphotrichum squamatum</i> (Spreng.) G.L.Nesom
N NAT	<i>Symphotrichum</i> × <i>versicolor</i> (Willd.) G.L.Nesom
	Parentage: <i>S. laeve</i> (L.) Á.Löve & D.Löve × <i>S. novi-belgii</i> (L.) G.L.Nesom.
N CAS	<i>Tagetes erecta</i> L.
N NAT	<i>Tagetes minuta</i> L.
A CAS	<i>Tanacetum balsamita</i> L.
N CAS	<i>Tanacetum cinerariifolium</i> (Trevir.) Sch.Bip.
N CAS	<i>Tanacetum macrophyllum</i> (Waldst. & Kit.) Sch.Bip.
N NAT	<i>Telekia speciosa</i> (Schreb.) Baumg.
T N NC	<i>Xanthium ambrosioides</i> Hook. & Arn.
	Note: This species is doubtfully distinct from <i>X. spinosum</i> L.
N INV	<i>Xanthium orientale</i> L.
	Note: For the circumscription of this variable species, see Tomasello (2018).
N INV	<i>Xanthium spinosum</i> L.
N CAS	<i>Xeranthemum annuum</i> L.
N CAS	<i>Xerochrysum bracteatum</i> (Vent.) Tzvelev
N CAS	<i>Youngia japonica</i> (L.) DC. subsp. japonica
N CAS	<i>Zinnia elegans</i> Jacq.
	<u>Balsaminaceae</u>
N INV	<i>Impatiens balfourii</i> Hook.f.
N CAS	<i>Impatiens balsamina</i> L.
N INV	<i>Impatiens glandulifera</i> Royle
N INV	<i>Impatiens parviflora</i> DC.
N NAT	<i>Impatiens tricornis</i> Lindl.
N CAS	<i>Impatiens walleriana</i> Hook.f.
	<u>Basellaceae</u>
N INV	<i>Anredera cordifolia</i> (Ten.) Steenis
	<u>Begoniaceae</u>
N NAT	<i>Begonia grandis</i> Dryand. subsp. grandis
N CAS CLT	<i>Begonia</i> Semperflorens Cultorum Group
	Parentage: A complex of horticultural hybrids involving <i>B. cucullata</i> Willd. (southern America) and <i>B. subvillosa</i> Klotzsch (= <i>B. schmidtiana</i> Regel) (Brazil) as parental species.
	<u>Berberidaceae</u>
N CAS	<i>Berberis julianae</i> C.K.Schneid.
N CAS	<i>Berberis thunbergii</i> DC.
N NAT	<i>Mahonia aquifolium</i> (Pursh) Nutt.
N NAT	<i>Mahonia bealei</i> (Fortune) Carrière
N CAS	<i>Nandina domestica</i> Thunb.
	<u>Betulaceae</u>
N CAS	<i>Corylus colurna</i> L.
N CAS	<i>Corylus maxima</i> Mill.
	<u>Bignoniaceae</u>
N CAS	<i>Bignonia capreolata</i> L.
N NAT	<i>Campsis radicans</i> (L.) Bureau
N NAT	<i>Catalpa bignonioides</i> Walter
	Note: This species is often confused with <i>Catalpa speciosa</i> Teas and <i>C. ovata</i> G.Don.
N NAT	<i>Catalpa ovata</i> G.Don
T N NAT	<i>Catalpa speciosa</i> Teas
	Note: This species is doubtfully distinct from <i>C. bignonioides</i> Walter.
N NAT	<i>Dolichandra unguis-cati</i> (L.) L.G.Lohmann
N CAS	<i>Handroanthus heptaphyllus</i> (Vell.) Mattos

(Continued)

N CAS	<i>Jacaranda mimosifolia</i> D.Don
N CAS	<i>Tecoma stans</i> (L.) Juss. ex Kunth
N CAS	<i>Tecomaria capensis</i> (Thunb.) Spach
	<u>Boraginaceae</u>
	Taxonomic references: <i>Adelocaryum</i> Brand and <i>Cynoglossum</i> L. (Hilger et al. 2015); <i>Iberodes</i> M.Serrano, R.Carbajal & S.Ortiz (Serrano et al. 2016).
N NC	<i>Adelocaryum coelestinum</i> (Lindl.) Brand
N CAS	<i>Amsinckia calycina</i> (Moris) Chater
N CAS	<i>Amsinckia lycopsoides</i> (Lehm.) Lehm.
N CAS	<i>Amsinckia menziesii</i> (Lehm.) A.Nelson & J.F.Macbr.
N NC	<i>Anchusa ochroleuca</i> M.Bieb.
N NAT	<i>Brunnera macrophylla</i> (Adams) I.M.Johnst.
N CAS	<i>Cynoglossum amabile</i> Stapf & J.R.Drumm.
N NAT	<i>Echium candicans</i> L.f.
N CAS	<i>Iberodes linifolia</i> (L.) M.Serrano, R.Carbajal & S.Ortiz
N CAS	<i>Lappula patula</i> (Lehm.) Menyh.
	Note: The historical occurrence in Sicily is based on a specimen kept in FI collected in 1907 (L. Cecchi and F. Selvi, pers. comm.).
N NAT	<i>Lycopsis orientalis</i> L.
N NC	<i>Melanortocarya obtusifolia</i> (Willd.) Selvi, Bigazzi, Hilger & Papini
N NAT	<i>Nonea lutea</i> (Desr.) DC.
N INV	<i>Nonea pulla</i> (L.) DC.
N NAT	<i>Pentaglottis sempervirens</i> (L.) Tausch ex L.H.Bailey
N NAT	<i>Symphytum asperum</i> Lepech.
N NAT	<i>Symphytum orientale</i> L.
N NAT	<i>Symphytum ×uplandicum</i> Nyman
	Parentage: <i>S. asperum</i> Lepech. × <i>S. officinale</i> L.
N CAS	<i>Trachystemon orientalis</i> (L.) G.Don
	Note: The historical occurrence in Toscana is based on a specimen kept FI collected in 1938 (L. Cecchi and F. Selvi, pers. comm.).
	<u>Brassicaceae</u>
	Taxonomic references: <i>Aubrieta</i> Adans. (Koch et al. 2016); <i>Cochlearia</i> L. and <i>Ionopsidium</i> Rchb. (Koch 2012).
N CAS	<i>Alyssum fulvescens</i> Sm.
A NAT	<i>Armoracia rusticana</i> G.Gaertn., B.Mey. & Scherb.
N NAT	<i>Aubrieta deltoidea</i> (L.) DC.
N NAT	<i>Aurinia saxatilis</i> (L.) Desv. subsp. <i>saxatilis</i>
	Note: For the systematics of this species, see Rešetnik et al. (2022).
N NC	<i>Brassica elongata</i> Ehrh. subsp. <i>elongata</i>
N CAS	<i>Brassica elongata</i> Ehrh. subsp. <i>integrifolia</i> (Boiss.) Breistr.
A NAT	<i>Brassica juncea</i> (L.) Czern.
	Note: According to Bosi et al. (2014), there are archaeobotanical remains of this species dating back to fourteenth-fifteenth century.
A NAT	<i>Brassica napus</i> L.
A NAT FER	<i>Brassica oleracea</i> L.
	Putative parentage: <i>B. cretica</i> Lam. → <i>B. incana</i> Ten. → <i>B. montana</i> Pourr. (eastern Mediterranean Region).
A CAS CLT	<i>Brassica rapa</i> L. subsp. <i>rapa</i>
	Note: Directly domesticated from <i>B. rapa</i> L. subsp. <i>campestris</i> (L.) A.R.Clapham (Mesopotamia).
N NAT	<i>Bunias orientalis</i> L.
N CAS	<i>Camelina rumelica</i> Velen.
A NAT FER	<i>Camelina sativa</i> (L.) Crantz subsp. <i>sativa</i>
	Note: Feral of the same taxon, in turn directly domesticated from <i>C. sativa</i> (L.) Crantz. subsp. <i>microcarpa</i> (Andrz. ex DC.) Bonnier (E-Turkey) (Zohary and Hopf 2000; Brock et al. 2018).
N INV	<i>Capsella grandiflora</i> (Fauché & Chaub.) Boiss.
N NAT	<i>Cardamine occulta</i> Hornem.
	Note: For the nomenclature of this species, see Marhold et al. (2016).
N INV	<i>Chorispora tenella</i> (Pall.) DC.
N CAS	<i>Cochlearia officinalis</i> L. subsp. <i>officinalis</i>
	Note: This species was recorded in Marche only within the Botanical Garden of Urbino.
A NAT	<i>Conringia orientalis</i> (L.) Andr. ex DC.
N D	<i>Crambe maritima</i> L.
N NC	<i>Erucaria hispanica</i> (L.) Druce
A NAT	<i>Erysimum cheiranthoides</i> L.
A NAT FER	<i>Erysimum cheiri</i> (L.) Crantz
	Parentage: Unknown.
N CAS	<i>Erysimum repandum</i> L.
N CAS	<i>Euclidium syriacum</i> (L.) W.T.Aiton
N CAS	<i>Iberis amara</i> L.
N CAS	<i>Ionopsidium acaule</i> (Desf.) Rchb.
	Note: For the nomenclature of this species, see Koch (2012) and Al-Shehbaz (2012).
N NAT	<i>Ionopsidium glastifolium</i> (L.) M.Koch
A INV	<i>Isatis tinctoria</i> L. subsp. <i>tinctoria</i>
N CAS	<i>Lepidium bonariense</i> L.
N NAT	<i>Lepidium densiflorum</i> Schrad.
N CAS	<i>Lepidium densiflorum</i> Schrad. × <i>Lepidium virginicum</i> L. subsp. <i>virginicum</i>
	Note: On the origin of this hybrid, see Al-Shehbaz and Gaskin (2010).
N NAT	<i>Lepidium didymum</i> L.
N NAT	<i>Lepidium heterophyllum</i> Benth.
N CAS	<i>Lepidium perfoliatum</i> L.
A NAT	<i>Lepidium sativum</i> L. subsp. <i>sativum</i>
N INV	<i>Lepidium virginicum</i> L. subsp. <i>virginicum</i>
N CAS	<i>Matthiola longipetala</i> (Vent.) DC. subsp. <i>bicornis</i> (Sibth. & Sm.) PW.Ball

(Continued)

N NC	<i>Ochthodium aegyptiacum</i> (L.) DC.
N D	<i>Odontarrhena muralis</i> (Waldst. & Kit.) Endl.
A CAS CLT	<i>Raphanus raphanistrum</i> L. subsp. sativus (L.) Schmalh. Note: Directly domesticated from <i>R. raphanistrum</i> L. subsp. <i>raphanistrum</i> (eastern Mediterranean Region).
A CAS	<i>Rapistrum perenne</i> (L.) All.
N NAT	<i>Rorippa armoracioides</i> (Tausch) Fuss
N NAT	<i>Rorippa austriaca</i> (Crantz) Besser
N NAT	<i>Sisymbrium loeselii</i> L.
N NAT	<i>Sisymbrium volgense</i> M.Bieb. ex E.Fourn.
	<u>Buxaceae</u>
N CAS CLT	<i>Buxus microphylla</i> Siebold & Zucc. Note: Probably directly domesticated from <i>B. microphylla</i> Siebold & Zucc. var. <i>japonica</i> (Müll.Arg.) Rehder & E.H.Wilson (Japan; Ohba 1999).
N NAT	<i>Pachysandra terminalis</i> Siebold & Zucc.
N CAS CLT	<i>Sarcococca confusa</i> Sealy Note: Directly domesticated from the same species.
	<u>Cactaceae</u>
	Taxonomic references: Guiggi (2008, 2010, 2014); Hernández-Ledesma et al. (2015); Korotkova et al. (2021); <i>Opuntia</i> Mill. (incl. <i>Nopalea</i> Salm-Dyck) (Majure et al. 2012; Majure and Puente 2014; Guiggi and Mariotti 2022).
N NAT	<i>Austrocyllindropuntia cylindrica</i> (Lam.) Backeb.
N INV	<i>Austrocyllindropuntia subulata</i> (Muehlenpf.) Backeb.
N NAT	<i>Cereus hildmannianus</i> K.Schum. subsp. hildmannianus
N CAS	<i>Chamaecereus silvestrii</i> (Speg.) Britton & Rose
N CAS	<i>Cleistocactus strausii</i> (Heese) Backeb. Note: We do not agree with Hernández-Ledesma et al. (2015) in maintaining a large paraphyletic <i>Echinopsis</i> Zucc.
N CAS	<i>Consolea falcata</i> (Ekman & Werderm.) F.M.Knuth
N NAT	<i>Cylindropuntia imbricata</i> (Haw.) F.M.Knuth subsp. spiniosior (Engelm.) M.A.Baker, Cloud-H. & Majure
N CAS	<i>Cylindropuntia kleiniae</i> (DC.) F.M.Knuth
N CAS	<i>Cylindropuntia tunicata</i> (Lehm.) F.M.Knuth
N CAS	<i>Echinopsis oxygona</i> (Link) Pfeiff. & Otto
N CAS	<i>Mammillaria bocasana</i> Poselg.
N NAT	<i>Mammillaria elongata</i> DC. subsp. elongata
N CAS	<i>Mammillaria polythele</i> Mart. subsp. polythele
N CAS	<i>Opuntia anacantha</i> Speg.
N CAS	<i>Opuntia chlorotica</i> Engelm. & J.M.Bigelow
N NAT	<i>Opuntia dejecta</i> Salm-Dyck
N NAT	<i>Opuntia elata</i> hort. Berol. ex Salm-Dyck subsp. bonaerensis (Speg.) Guiggi
N NAT	<i>Opuntia elata</i> hort. Berol. ex Salm-Dyck subsp. elata Note: This subspecies was confused in Piemonte with <i>O. elata</i> subsp. <i>bonaerensis</i> (Speg.) Guiggi (Aymerich and Font 2022).
N INV	<i>Opuntia elatior</i> Mill.
N NAT	<i>Opuntia engelmannii</i> Salm-Dyck ex Engelm. Note: The new record from Piemonte is based on the following datum: Bussoleno (Torino) (WGS84: 45.147598°N, 7.141565°E ± 50 m), 570 m, May 2021, photo S. Carfagno, det. A. Guiggi.
N INV FER	<i>Opuntia ficus-indica</i> (L.) Mill. Note: Possibly feral and culton of a spiny morphotype of the same species, described as <i>O. amyclaea</i> Ten. (Mexico).
N INV	<i>Opuntia humifusa</i> (Raf.) Raf.
N NAT	<i>Opuntia leucotricha</i> DC.
N NAT	<i>Opuntia lindheimeri</i> Engelm.
N NAT	<i>Opuntia microdasys</i> (Lehm.) Pfeiff.
N NAT	<i>Opuntia monacantha</i> Haw.
N INV	<i>Opuntia phaeacantha</i> Engelm.
N CAS	<i>Opuntia pilifera</i> F.A.C.Weber
N CAS	<i>Opuntia polyacantha</i> Haw.
N NAT	<i>Opuntia robusta</i> H.L.Wendl. ex Pfeiff.
N NAT	<i>Opuntia scheeri</i> F.A.C.Weber
N NAT	<i>Opuntia spinulifera</i> Salm-Dyck
N NAT	<i>Opuntia streptacantha</i> Lem.
N INV	<i>Opuntia stricta</i> (Haw.) Haw.
N NAT	<i>Opuntia tomentosa</i> Salm-Dyck
N NAT	<i>Opuntia tuna</i> (L.) Mill. Note: In the past, this name was misapplied to plants currently known as <i>O. engelmannii</i> Salm-Dyck ex Engelm.
N CAS	<i>Selenicereus triangularis</i> (L.) D.R.Hunt
N NAT FER	<i>Selenicereus undatus</i> (Haw.) D.R.Hunt Note: Feral and culton of the same species (Mexico).
N CAS	<i>Soehrensia candicans</i> (Gillies ex Salm-Dyck) Schlumpb.
N CAS	<i>Soehrensia spachiana</i> (Lem.) Schlumpb.
	<u>Calycanthaceae</u>
N CAS	<i>Calycanthus floridus</i> L.
N CAS	<i>Chimonanthus praecox</i> (L.) Link
	<u>Campanulaceae</u>
N CAS	<i>Campanula carpatica</i> Jacq.
N NAT	<i>Campanula grandis</i> Fisch. & C.A.Mey. subsp. grandis
N NAT	<i>Campanula portenschlagiana</i> Schult.
N NAT	<i>Campanula poscharskyana</i> Degen
N NAT	<i>Campanula ramosissima</i> Sm. subsp. ramosissima
N CAS	<i>Lobelia erinus</i> L.
N CAS	<i>Lobelia laxiflora</i> Kunth subsp. laxiflora

(Continued)

N CAS	<i>Platycodon grandiflorus</i> (Jacq.) A.DC.
N INV	<i>Trachelium caeruleum</i> L.
	Cannabaceae
A CAS CLT	<i>Cannabis sativa</i> L.
	Note: Directly domesticated from the same species (E-Asia, ca. 12,000years ago) (Ren et al. 2021).
N NAT	<i>Celtis occidentalis</i> L.
N INV	<i>Humulus japonicus</i> Siebold & Zucc.
	Cannaceae
N CAS	<i>Canna glauca</i> L.
N CAS CLT	<i>Canna</i> × <i>hybrida</i> Rodigas
	Parentage: Horticultural hybrid between <i>C. indica</i> L. and <i>C. glauca</i> L. or <i>C. iridiflora</i> Ruiz & Pav. (Kress and Prince 2000).
N NAT	<i>Canna indica</i> L.
	Caprifoliaceae
N NAT	<i>Leycesteria formosa</i> Wall.
N D	<i>Lonicera biflora</i> Desf.
N NAT	<i>Lonicera fragrantissima</i> Lindl. & Paxton
N CAS	<i>Lonicera involucrata</i> (Richardson) Banks ex Spreng.
N INV	<i>Lonicera japonica</i> Thunb.
N NAT	<i>Lonicera ligustrina</i> Wall. subsp. <i>yunnanensis</i> (Franch.) P.S.Hsu & H.J.Wang
N NAT	<i>Lonicera pileata</i> Oliv.
N CAS	<i>Lonicera tatarica</i> L.
N NAT	<i>Symphoricarpos albus</i> (L.) S.F.Blake
N CAS	<i>Triosteum pinnatifidum</i> Maxim.
	Caryophyllaceae
A NAT	<i>Agrostemma githago</i> L. subsp. <i>githago</i>
	Note: This species is extinct in Trentino-Alto Adige and Friuli Venezia Giulia, but some casual alien plants escaped from cultivation may be found.
N CAS	<i>Cerastium biebersteinii</i> DC.
N CAS	<i>Dianthus giganteus</i> d'Urv. subsp. <i>giganteus</i>
N NC	<i>Dianthus plumarius</i> L. subsp. <i>plumarius</i>
N CAS	<i>Dianthus pontederiae</i> A.Kern. subsp. <i>pontederiae</i>
N CAS	<i>Gypsophila collina</i> Steven ex Ser.
N CAS	<i>Gypsophila elegans</i> M.Bieb.
N CAS	<i>Gypsophila paniculata</i> L.
N CAS	<i>Gypsophila perfoliata</i> L.
N CAS	<i>Gypsophila pilosa</i> Huds.
N CAS	<i>Lychnis chalconica</i> L.
N D	<i>Ortega hispanica</i> L.
N CAS	<i>Petrorhagia glumacea</i> (Chaub. & Bory) P.W.Ball & Heywood
N EX	<i>Petrorhagia obcordata</i> (Margot & Reut.) Greuter & Burdet
N CAS	<i>Silene conoidea</i> L.
N CAS	<i>Silene flavescent</i> Waldst. & Kit. subsp. <i>flavescent</i>
N CAS	<i>Silene graeca</i> Boiss. & Spruner
N CAS	<i>Silene heldreichii</i> Boiss.
N CAS	<i>Silene viscosa</i> (L.) Pers.
	Casuarinaceae
N CAS	<i>Allocasuarina verticillata</i> (Lam.) L.A.S.Johnson
N CAS	<i>Casuarina cunninghamiana</i> Miq. subsp. <i>cunninghamiana</i>
N NAT	<i>Casuarina equisetifolia</i> L. subsp. <i>equisetifolia</i>
	Celastraceae
N CAS	<i>Elaeodendron croceum</i> (Thunb.) DC.
N CAS	<i>Euonymus americanus</i> L.
N NAT	<i>Euonymus fortunei</i> (Turcz.) Hand.-Mazz.
N NAT	<i>Euonymus japonicus</i> Thunb.
N CAS	<i>Euonymus lucidus</i> D.Don
	Cistaceae
N CAS	<i>Cistus ladanifer</i> L. subsp. <i>ladanifer</i>
N CAS	<i>Cistus</i> × <i>purpureus</i> Lam. nothosubsp. <i>purpureus</i>
	Parentage: <i>C. creticus</i> L. subsp. <i>creticus</i> × <i>C. ladanifer</i> L. subsp. <i>ladanifer</i> .
	Cleomaceae
	Taxonomic references: <i>Tarenaya</i> Raf. (Iltis and Cochrane 2014; Soares Neto et al. 2022).
N NAT	<i>Polanisia dodecandra</i> (L.) DC. subsp. <i>trachysperma</i> (Torr. & A.Gray) Iltis
N CAS	<i>Tarenaya houtteana</i> (Schltdl.) Soares Neto & Roalson
N CAS	<i>Tarenaya spinosa</i> (Jacq.) Raf.
	Colchicaceae
	Taxonomic references: <i>Colchicum</i> L. (Persson 2007).
N NC	<i>Colchicum cilicicum</i> (Boiss.) Dammer
	Commelinaceae
N CAS	<i>Commelina benghalensis</i> L.
N INV	<i>Commelina communis</i> L.
N CAS	<i>Commelina erecta</i> L.
N CAS	<i>Gibasis pellucida</i> (M.Martens & Galeotti) D.R.Hunt
N INV	<i>Murdannia keisak</i> (Hassk.) Hand.-Mazz.
N CAS	<i>Tradescantia cerinthoides</i> Kunth
N INV	<i>Tradescantia fluminensis</i> Vell.
	Note: Some authors consider <i>T. albiflora</i> Kunth (recorded for Liguria and Toscana) as an independent taxon.
N CAS	<i>Tradescantia pallida</i> (Rose) D.R.Hunt
N CAS	<i>Tradescantia sillamontana</i> Matuda
N CAS	<i>Tradescantia virginiana</i> L.

(Continued)

N DD	Tradescantia zebrina hort. ex Bosse Note: This species was reported for Italy, without distribution, by Pignatti (1982) and Pignatti et al. (2017a). Convolvulaceae Taxonomic references: <i>Convolvulus</i> L. (Wood et al. 2015); <i>Convolvulus sabatius</i> complex (Carine and Robba 2010); <i>Ipomoea</i> L. (Wood et al. 2020).
N CAS	Convolvulus betonicifolius Mill. subsp. betonicifolius
N NAT	Convolvulus dubius J.L.Gilbert
N CAS	Convolvulus farinosus L.
N NAT	Convolvulus sabatius Viv. subsp. mauritanicus (Boiss.) Murb.
N CAS	Convolvulus tricolor L. subsp. tricolor
N CAS	Convolvulus wallichianus Spreng.
N INV	Cuscuta campestris Yunck. Note: For the taxonomy of this species, see Campanile (1926).
A NAT	Cuscuta epilinum Weihe
N CAS	Dichondra argentea Humb. & Bonpl. ex Willd.
N NAT	Dichondra micrantha Urb.
N CAS CLT	Ipomoea batatas (L.) Lam. Note: Directly domesticated from the same species, which is a natural autohexaploid arisen naturally in pre-human times in tropical America from diploid <i>I. trifida</i> (Kunth) G.Don (Hirst 2016; Muñoz-Rodríguez et al. 2018; Wood et al. 2020).
N NAT	Ipomoea cairica (L.) Sweet
N CAS	Ipomoea coccinea L.
N CAS	Ipomoea hederacea Jacq.
N INV	Ipomoea indica (Burm.) Merr.
N CAS	Ipomoea pandurata (L.) G.Mey.
N NAT	Ipomoea purpurea (L.) Roth
N CAS	Ipomoea setosa Ker Gawl. subsp. pavonii (Hallier f.) J.R.I.Wood & Scotland
N CAS	Ipomoea tricolor Cav.
N CAS	Ipomoea triloba L.
N CAS	Cornaceae Cornus sericea L.
A NAT	Crassulaceae Aeonium arboreum (L.) Webb & Berthel.
N NAT	Aeonium decorum Webb ex Bolle
N CAS	Aeonium gomerense (Praeger) Praeger
N NAT	Aeonium haworthii Webb & Berthel.
N CAS CLT	Aeonium ×hybridum (Haw.) G.D.Rowley Parentage: <i>A. simsii</i> (Sweet) Stearn × <i>A. spathulatum</i> (Hornem.) Praeger.
N CAS	Aeonium lancerottense (Praeger) Praeger
N CAS	Aeonium simsii (Sweet) Stearn
N CAS	Cotyledon orbiculata L.
N NAT	Crassula campestris (Eckl. & Zeyh.) Endl. ex Walp. subsp. campestris
N D	Crassula helmsii (Kirk) Cockayne
N D	Crassula multicava Lem. subsp. multicava
N INV	Crassula muscosa L.
N CAS	Crassula ovata (Mill.) Druce
N CAS	Crassula tetragona L. subsp. robusta (Toelken) Toelken
N CAS	Graptopetalum paraguayense (N.E.Br.) Walther subsp. paraguayense
N CAS CLT	× Graptosedum sp. Parentage: <i>Graptopetalum</i> Rose × <i>Sedum</i> L. Note: The record of × <i>Graptosedum</i> Rose from Lombardia (Ardenghi 2018) possibly refers to × <i>Graptosedum</i> 'Darley Sunshine'.
N CAS	Hylotelephium spectabile (Boreau) H.Ohba
N CAS	Hylotelephium telephium (L.) H.Ohba subsp. telephium
N CAS	Kalanchoë blossfeldiana Poelln.
N NAT	Kalanchoë daigremontiana Raym.-Hamet & H.Perrier Note: This species is often confused with the hybrid <i>K. ×houghtonii</i> D.B.Ward.
N CAS	Kalanchoë delagoënsis Eckl. & Zeyh.
N INV FER	Kalanchoë ×houghtonii D.B.Ward Parentage: <i>K. daigremontiana</i> Raym.-Hamet & H.Perrier × <i>K. delagoensis</i> Eckl. & Zeyh.
N CAS	Kalanchoë laxiflora Baker
N CAS	Phedimus kamschaticus (Fisch.) 't Hart
N NAT	Phedimus spurius (M.Bieb.) 't Hart subsp. spurius
N NAT FER	× Sedeveria mauroi L.Gallo, Merli & Jankalski Parentage: <i>Echeveria agavoides</i> Lem. × <i>Sedum</i> cf. <i>pachyphyllum</i> Rose (Gallo et al. 2020).
N CAS	Sedum multiceps Coss. & Durieu
N CAS	Sedum nussbaumerianum Bitter
N NAT	Sedum pallidum M.Bieb.
N NAT	Sedum palmeri S.Watson
N NAT	Sedum praealtum A.DC.
N CAS CLT	Sedum rubrotinctum R.T.Clausen Parentage: Horticultural hybrid, possibly <i>S. stahlii</i> Solms × <i>S. pachyphyllum</i> Rose, both native to Mexico.
N NAT	Sedum sarmentosum Bunge
N CAS	Sedum spathulifolium Hook. subsp. spathulifolium
N CAS	Cucurbitaceae Taxonomic references: Nesom (2011).
N CAS	Citrullus amarus Schrad.
A CAS CLT	Citrullus lanatus (Thunb.) Matsum. & Nakai subsp. lanatus Note: Directly domesticated from <i>Citrullus lanatus</i> subsp. <i>kordophanus</i> Ter-Avan. (Sudan) (Chomicki and Renner 2014; Renner et al. 2017).

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A CAS CLT	Cucumis melo L. subsp. melo Note: Directly domesticated from <i>C. melo</i> subsp. <i>agrestis</i> (Naudin) Pangalo (India).
A CAS CLT	Cucumis sativus L. subsp. sativus Note: Directly domesticated from <i>C. sativus</i> subsp. <i>hardwickii</i> (Royle) Banfi & Galasso (India) (de Wilde and Duyfjes 2008; Sebastian et al. 2010; Nesom 2011; Qi et al. 2013; Liu et al. 2015).
N CAS	Cucurbita ficifolia Bouché
N CAS CLT	Cucurbita maxima Duchesne subsp. maxima Note: Directly domesticated from <i>C. maxima</i> subsp. <i>andreana</i> (Naudin) Filov (Argentina).
N CAS CLT	Cucurbita melopepo L. subsp. melopepo Note: Directly domesticated from <i>C. melopepo</i> subsp. <i>texana</i> (Scheele) G.L.Nesom (southwestern N-America).
N CAS CLT	Cucurbita moschata Duchesne Note: Directly domesticated from the same species, <i>C. moschata</i> Duchesne (Bolivia and Colombia).
N CAS CLT	Cucurbita pepo L. subsp. pepo Note: Directly domesticated from <i>C. pepo</i> subsp. <i>gumala</i> Teppner (Guatemala).
N CAS	Cyclanthera pedata (L.) Schrad.
N NAT	Echinocystis lobata (Michx.) Torr. & A.Gray
A CAS	Lagenaria siceraria (Molina) Standl.
N CAS	Luffa aegyptiaca Mill.
N CAS	Momordica charantia L.
N INV	Sicyos angulatus L.
N CAS CLT	Sicyos edulis Jacq. Note: Possibly directly domesticated from the same species (southern Mexico and Guatemala).
N CAS	Thladiantha dubia Bunge <u>Cyperaceae</u> Taxonomic references: <i>Cyperus</i> L. (Verloove 2014); <i>Eleocharis</i> R.Br. (Verloove 2010); <i>Schoenoplectiella</i> Lye (Lye 2003; Shiels et al. 2014; Glon et al. 2017).
N CAS	Carex muskingumensis Schwein.
N NAT	Carex tribuloides Wahlenb.
N INV	Carex vulpinoidea Michx.
N INV	Cyperus alternifolius L. subsp. flabelliformis Kük.
N CAS	Cyperus alternifolius L. subsp. textilis (Thunb.) Verloove
N NAT	Cyperus brevifolioides Thieret & Delahouss.
N CAS	Cyperus compressus L.
N NAT	Cyperus congestus Vahl
N INV	Cyperus difformis L.
N INV	Cyperus eragrostis Lam.
N INV	Cyperus erythrorhizos Muhl.
A INV	Cyperus esculentus L.
N NAT	Cyperus exaltatus Retz.
N CAS	Cyperus hamulosus M.Bieb.
N NAT	Cyperus lupulinus (Spreng.) Marcks
N INV	Cyperus microiria Steud.
N INV	Cyperus odoratus L.
A NAT	Cyperus papyrus L.
N CAS	Cyperus rigens J.Presl & C.Presl
N NAT	Cyperus schweinitzii Torr.
A INV	Cyperus serotinus Rottb.
N NAT	Cyperus squarrosus L.
N NAT	Cyperus strigosus L.
N NAT	Eleocharis atropurpurea (Retz.) J.Presl & C.Presl
N INV	Eleocharis obtusa (Willd.) Schult.
N NAT	Eleocharis olivacea Torr. Note: This name has been synonymized with <i>E. flavescens</i> (Poir.) Urb. (Jiménez Mejías and Luceño 2007) or treated as a variety of the latter species (Smith et al. 2002). We consider this taxon at species rank, as an alien. On the contrary, we regard <i>E. caduca</i> (Delile) Schult. as a native plant (Bartolucci et al. 2024). Verloove and Soldano (2011) reported another species, namely <i>E. flavescens</i> , as a weed in the heathlands of Piemonte. However, in a sample of these heathland plants, we detected the typical features of <i>E. olivacea</i> . However, the global taxonomic treatment of this group is confusing: Old and New World plants assigned to <i>E. flavescens</i> or <i>E. caduca</i> are poorly distinct and the type materials of <i>E. caduca</i> and <i>E. flavescens</i> are virtually undistinguishable. Also the putative geographical separation of these two taxa (Old vs. New World) is a weak argument, since a number of tropical and subtropical Cyperaceae show a circumglobal distribution. Additional biosystematic studies, including DNA sequences, may clarify the taxonomic relationships within this complex.
N NAT	Eleocharis pellucida J.Presl & C.Presl
N CAS	Schoenoplectiella juncoides (Roxb.) Lye <u>Didiereaceae</u>
N CAS	Portulacaria afra Jacq. <u>Diervillaceae</u>
N CAS	Weigela florida (Bunge) A.DC. <u>Dipsacaceae</u>
N NAT	Cephalaria gigantea (Ledeb.) Bobrov
N NAT	Cephalaria syriaca (L.) Roem. & Schult.
A CAS CLT	Dipsacus fullonum L. subsp. sativus (L.) Thell. Note: Directly domesticated from <i>D. fullonum</i> L. subsp. <i>fullonum</i> .
N NAT	Dipsacus laciniatus L.
N NC	Lomelosia prolifera (L.) Greuter & Burdet
N NAT	Pterocephalus plumosus (L.) Coult. <u>Ebenaceae</u>
N NAT	Diospyros kaki Thunb.
N NAT	Diospyros lotus L.
N NAT	Diospyros virginiana L.

(Continued)

	<u>Elaeagnaceae</u>
N NAT	Elaeagnus angustifolia L.
N CAS	Elaeagnus commutata Bernh. ex Rydb.
N INV	Elaeagnus pungens Thunb.
N CAS CLT	Elaeagnus ×submacrophylla Servett. Parentage: <i>E. macrophylla</i> Thunb. × <i>E. pungens</i> Thunb.
N NAT	Elaeagnus umbellata Thunb.
	<u>Elatinaceae</u>
T N D	Elatine ambigua Wight Note: According to Sramkó et al. (2016), <i>E. ambigua</i> would not occur in Europe. However, we cannot exclude that this name could even be treated as a heterotypic synonym of the native <i>E. triandra</i> Schkuhr.
	<u>Ericaceae</u>
N CAS	Erica tetralix L.
	<u>Eriocaulaceae</u>
N CAS	Eriocaulon cinereum R.Br.
	<u>Euphorbiaceae</u>
	Taxonomic references: <i>Euphorbia</i> sect. <i>Anisophyllum</i> Roep. (Mugnai et al. 2021).
N NAT	Acalypha australis L.
N CAS	Acalypha ostryifolia Riddell ex J.M.Coult.
N NAT	Acalypha rhomboidea Raf.
N INV	Acalypha virginica L.
N CAS	Euphorbia agraria M.Bieb.
N INV	Euphorbia davidii Subils Note: For the identification of this species, see Banfi and Galasso (2010).
N CAS	Euphorbia epithymoides L.
N NAT	Euphorbia glyptosperma Engelm.
N NAT	Euphorbia graminea Jacq.
N CAS	Euphorbia heterophylla L.
N NAT	Euphorbia humifusa Willd.
N NAT	Euphorbia hypericifolia L.
A NAT	Euphorbia lathyris L.
N INV	Euphorbia maculata L.
N CAS	Euphorbia marginata Pursh
N INV	Euphorbia nutans Lag.
N D	Euphorbia oblongata Griseb. Note: In Toscana this species was found as a casual alien only within the Botanical Garden of Siena.
N CAS	Euphorbia ophthalmica Pers.
N INV	Euphorbia prostrata Aiton
N CAS	Euphorbia pulcherrima Willd. ex Klotzsch
N D	Euphorbia serpens Kunth subsp. <i>fissistipula</i> (Thell.) Verloove & Lambinon
N NAT	Euphorbia serpens Kunth subsp. serpens
N NC	Euphorbia valerianifolia Lam.
N CAS CLT	Manihot esculenta Crantz subsp. esculenta Note: Directly domesticated from <i>M. esculenta</i> Crantz subsp. <i>flabellifolia</i> (Pohl) Cif. (CW-Brasil).
N NAT	Manihot grahamii Hook.
A INV	Ricinus communis L.
	<u>Fabaceae</u>
	Taxonomic references: <i>Ervilia</i> Link, <i>Lathyrus</i> L. (incl. <i>Pisum</i> L.), <i>Vicia</i> L. (incl. <i>Lens</i> Mill.) (Schaefer et al. 2012); <i>Erythrostemon</i> Klotzsch, <i>Tara</i> Molina (Gagnon et al. 2016); <i>Parasenegalia</i> Seigler & Ebinger (Seigler et al. 2017); <i>Styphnolobium</i> Schott (Sousa and Rudd 1993); <i>Trigonella</i> L. (incl. <i>Melilotus</i> Mill.) (Bena 2001).
N CAS	Acacia cultriformis A.Cunn. ex G.Don
N NAT	Acacia cyclops A.Cunn. ex G.Don
N INV	Acacia dealbata Link
N NAT	Acacia longifolia (Andrews) Willd. Note: It is unclear whether the autonymic subspecies or <i>A. longifolia</i> (Andrews) Willd. subsp. <i>sophorae</i> (Labill.) Court. occurs in Italy.
N INV	Acacia mearnsii De Wild.
N NAT	Acacia melanoxylon R.Br.
N INV	Acacia provincialis A.Camus Note: For the taxonomy of this species, see O'Leary (2007).
N INV	Acacia pycnantha Benth.
N INV	Acacia saligna (Labill.) H.L.Wendl.
N CAS	Albizia julibrissin Durazz.
N INV	Amorpha fruticosa L.
N NAT	Amphicarpaea comosa (L.) G.Don ex Loudon
N D	Anthyllis vulneraria L. subsp. <i>vulneraria</i>
N INV	Apios americana Medik.
N CAS CLT	Arachis hypogaea L. Parentage: <i>A. duranensis</i> Krapov. & W.C.Greg. × <i>A. ipaensis</i> Krapov. & W.C.Greg. (SE-Bolivia/NW-Argentina).
N NC	Astragalus odoratus Lam.
N CAS	Camptosema rubicundum Hook. & Arn.
N CAS	Caragana arborescens Lam.
A CAS CLT	Cicer arietinum L. subsp. arietinum Note: Directly domesticated from <i>C. arietinum</i> subsp. <i>reticulatum</i> (Ladiz.) Moreno & Cubero ex Del Guacchio & P.Caputo (NW-Syria) (Nguyen et al. 2004; Gupta et al. 2017; Toker et al. 2021).
N CAS	Cladrastis platycarpa (Maxim.) Makino
N NC	Cullen americanum (L.) Rydb.

(Continued)

N CAS	<i>Cytisus proliferus</i> L.f. subsp. proliferus
N NAT	<i>Cytisus striatus</i> (Hill) Rothm.
N NAT	<i>Denisophytum bessac</i> (Chiov.) Gagnon & G.P.Lewis
N CAS	<i>Dipogon lignosus</i> (L.) Verdc.
A NAT	<i>Ervilia sativa</i> Link
N NAT	<i>Erythrostemon gilliesii</i> (Wall. ex Hook.) Klotzsch
A NAT	<i>Galega officinalis</i> L.
N NAT	<i>Gleditsia triacanthos</i> L.
N CAS CLT	<i>Glycine max</i> (L.) Merr. subsp. max Note: Directly domesticated from <i>G. max</i> subsp. <i>soja</i> (Siebold & Zucc.) H.Ohashi (NE-China).
N NAT	<i>Glycyrrhiza echinata</i> L.
N CAS	<i>Gymnocladus dioicus</i> (L.) K.Koch
N CAS	<i>Indigofera heterantha</i> Wall. ex Brandis
N CAS	<i>Indigofera splendens</i> Ficalho & Hiern
N NAT FER	<i>Lablab purpureus</i> (L.) Sweet Note: Feral of the same taxon, in turn directly domesticated from a biotype bearing 2-seeded pods (Ethiopia).
A CAS CLT	<i>Lathyrus oleraceus</i> Lam. subsp. oleraceus Note: Directly domesticated from <i>L. oleraceus</i> subsp. <i>biflorus</i> (Raf.) H.Schaeff., Coulot & Rabaute (Middle East).
A NAT FER	<i>Lathyrus sativus</i> L. Note: Feral of the same species, in turn possibly directly domesticated from <i>L. cicera</i> L. (Turkey/Iraq or S-Balkans).
N NAT	<i>Leucaena leucocephala</i> (Lam.) de Wit subsp. glabrata (Rose) Zárte
N CAS	<i>Lotus drepanocarpus</i> Durieu
A NAT FER	<i>Lupinus albus</i> L. subsp. albus Note: Feral of the same taxon, in turn directly domesticated from <i>L. albus</i> subsp. <i>graecus</i> (Boiss. & Spruner) Franco & P.Silva (Greece and Asia Minor).
N NAT FER	<i>Lupinus polyphyllus</i> Lindl. Note: Feral and culton of the same species (N-America).
N CAS	<i>Medicago blanchena</i> Boiss.
N CAS	<i>Medicago granadensis</i> Willd.
N CAS	<i>Medicago monantha</i> (C.A.Mey.) Trautv.
A NAT FER	<i>Medicago sativa</i> L. Note: Feral and culton of the same species (Iran).
A NAT	<i>Medicago</i> × <i>varia</i> Martyn Parentage: <i>M. falcata</i> L. × <i>M. sativa</i> L. Note: Most likely this nothospecies is much more widespread than currently recorded.
N CAS	<i>Ornithopus sativus</i> Brot. subsp. sativus
N NAT	<i>Parasenegalia visco</i> (Lorentz ex Griseb.) Seigler & Ebinger
N NAT	<i>Paraserianthes lophantha</i> (Willd.) I.C.Nielsen subsp. lophantha
N INV	<i>Parkinsonia aculeata</i> L.
N CAS CLT	<i>Phaseolus coccineus</i> L. Note: Directly domesticated from the same species (Mexico; Guerra-García et al. 2017).
N CAS CLT	<i>Phaseolus vulgaris</i> L. subsp. vulgaris Note: Directly domesticated from <i>P. vulgaris</i> subsp. <i>aborigineus</i> (Burkart) Burkart & Bruecker (Andes).
N INV	<i>Pueraria lobata</i> (Willd.) Ohwi Note: For the taxonomy of this species, see Sun et al. (2005) and Banfi and Galasso (2010).
N CAS	<i>Retama monosperma</i> (L.) Boiss. subsp. monosperma
N NAT	<i>Robinia hispida</i> L.
N CAS	<i>Robinia neomexicana</i> A.Gray
N INV	<i>Robinia pseudoacacia</i> L.
N INV	<i>Robinia viscosa</i> Vent.
N CAS	<i>Senna corymbosa</i> (Lam.) H.S.Irwin & Barneby
N INV	<i>Sesbania punicea</i> (Cav.) Benth.
N CAS	<i>Styphnolobium japonicum</i> (L.) Schott
N CAS	<i>Tara spinosa</i> (Feuillée ex Molina) Britton & Rose
N NAT FER	<i>Trifolium alexandrinum</i> L. Parentage: <i>T. salmoneum</i> Mouterde → <i>T. berytheum</i> Boiss. & C.I.Blanche (Middle East).
N CAS	<i>Trifolium apertum</i> Bobrov
N CAS	<i>Trifolium cinctum</i> DC.
N D	<i>Trifolium clypeatum</i> L.
N CAS	<i>Trifolium constantinopolitanum</i> Ser.
N CAS	<i>Trifolium dalmaticum</i> Vis.
A NAT FER	<i>Trifolium incarnatum</i> L. subsp. incarnatum Note: Feral and culton of <i>T. incarnatum</i> L. subsp. <i>molinerii</i> (Balb. ex Hornem.) Ces.
N NAT	<i>Trifolium mutabile</i> Port. subsp. mutabile
N CAS	<i>Trifolium retusum</i> L.
A CAS	<i>Trigonella caerulea</i> (L.) Ser.
N NAT	<i>Trigonella dentata</i> (Waldst. & Kit.) Coulot & Rabaute
A NAT	<i>Trigonella foenum-graecum</i> L.
N NC	<i>Trigonella lilacina</i> Boiss.
N CAS	<i>Vachellia caven</i> (Molina) Seigler & Ebinger
N CAS	<i>Vachellia farnesiana</i> (L.) Wight & Arn.
N INV	<i>Vachellia karroo</i> (Hayne) Banfi & Galasso
A CAS CLT	<i>Vicia faba</i> L. Note: Directly domesticated from an extinct unit (Middle East).
A CAS CLT	<i>Vicia lens</i> (L.) Coss. & Germ. subsp. lens Note: Directly domesticated from <i>V. lens</i> (L.) Coss. & Germ. subsp. <i>orientalis</i> (Boiss.) Galasso, Banfi, Bartolucci & J.-M.Tison (Middle East).

(Continued)

A CAS CLT	<i>Vigna unguiculata</i> (L.) Walp. subsp. <i>unguiculata</i> Note: Directly domesticated from <i>V. unguiculata</i> subsp. <i>dekindtiana</i> (Harms) Verdc. (Zuluaga et al. 2021) (W-Africa, Kintampo tribe, 4000–5000 years ago).
N CAS	<i>Wisteria floribunda</i> (Willd.) DC.
N NAT	<i>Wisteria sinensis</i> (Sims) DC. <u>Fagaceae</u>
N NAT	<i>Quercus palustris</i> Münchh.
N NAT	<i>Quercus phellos</i> L.
N INV	<i>Quercus rubra</i> L.
N CAS	<i>Quercus shumardii</i> Buckley <u>Garryaceae</u>
N CAS	<i>Aucuba japonica</i> Thunb. <u>Geraniaceae</u> Taxonomic references: <i>Pelargonium</i> L'Hér. (Miller 1996).
N NAT	<i>Erodium glaucophyllum</i> (L.) L'Hér.
N CAS CLT	<i>Erodium</i> ×<i>variable</i> A.C.Leslie Parentage: <i>E. corsicum</i> Léman × <i>E. reichardii</i> (Murray) DC.
N INV	<i>Geranium sibiricum</i> L.
N CAS	<i>Pelargonium capitatum</i> (L.) L'Hér.
N CAS	<i>Pelargonium cucullatum</i> (L.) L'Hér.
N CAS	<i>Pelargonium graveolens</i> (Thunb.) L'Hér.
N CAS CLT	<i>Pelargonium</i> ×<i>hortorum</i> L.H.Bailey Parentage: <i>P. inquinans</i> (L.) L'Hér. × <i>P. zonale</i> (L.) L'Hér. Note: According to Miller (1996), all the forms attributed in Europe to <i>P. inquinans</i> or to <i>P. zonale</i> should be referred to <i>P. ×hortorum</i> , given that the presence or absence of the leaf colored band are variable in a heterozygous gene pool.
N CAS	<i>Pelargonium peltatum</i> (L.) L'Hér. <u>Gesneriaceae</u>
N CAS	<i>Haberlea rhodopensis</i> Friv. <u>Grossulariaceae</u>
N CAS	<i>Ribes aureum</i> Pursh
N CAS	<i>Ribes nigrum</i> L.
N CAS	<i>Ribes spicatum</i> E.Robson subsp. <i>spicatum</i> <u>Haemodoraceae</u>
N CAS	<i>Anigozanthos flavidus</i> Redouté <u>Haloragaceae</u>
N INV	<i>Myriophyllum aquaticum</i> (Vell.) Verdc. Note: According to Reg. (EU) No. 1143/2014, this species was eradicated in Piemonte (A. Selvaggi, pers. comm.). <u>Hamamelidaceae</u>
N CAS	<i>Parrotia persica</i> (DC.) C.A.Mey. <u>Heliotropiaceae</u>
N NAT	<i>Heliotropium amplexicaule</i> Vahl
N CAS	<i>Heliotropium arborescens</i> L. Note: For the nomenclature and the identification of this species, see Luebert et al. (2010). In Friuli Venezia Giulia it was only cultivated.
N NAT	<i>Heliotropium curassavicum</i> L. <u>Hydrangeaceae</u>
N NAT	<i>Deutzia crenata</i> Siebold & Zucc. Note: For the identification of this species, see Ohba and Niu (2001).
N CAS	<i>Deutzia gracilis</i> Siebold & Zucc.
N NAT	<i>Hydrangea macrophylla</i> (Thunb.) Ser.
N NAT	<i>Hydrangea quercifolia</i> W.Bartram <u>Hydrocharitaceae</u> Taxonomic references: <i>Hydrilla</i> Rich. (Cook and Lüönd 1982); <i>Najas</i> L. (Triest 1988; Ito et al. 2017).
N CAS	<i>Blyxa japonica</i> (Miq.) Maxim. ex Asch. & Gürke
N INV	<i>Egeria densa</i> Planch.
N INV	<i>Elodea canadensis</i> Michx.
N INV	<i>Elodea nuttallii</i> (Planch.) H.St.John
N INV	<i>Halophila stipulacea</i> (Forssk.) Asch.
N CAS	<i>Hydrilla verticillata</i> (L.f.) Royle
N INV	<i>Lagarosiphon major</i> (Ridl.) Moss
N NAT	<i>Najas chinensis</i> N.Z.Wang Note: For the European distribution of this species, see Ito et al. (2017).
N NAT	<i>Najas gracillima</i> (A.Braun ex Engelm.) Magnus
N NAT	<i>Najas graminea</i> Delile
N NAT	<i>Ottelia alismoides</i> (L.) Pers.
N NAT	<i>Vallisneria americana</i> Michx. <u>Hydrophyllaceae</u>
N NAT	<i>Phacelia tanacetifolia</i> Benth. <u>Hypericaceae</u>
N D	<i>Hypericum balearicum</i> L. Note: The locality cited for Liguria is the result of a past introduction (Robson 1985). According to Burnat (1896) and Fiori (1898), the Ligurian population recorded by Parlato (1875) was almost certainly cultivated.
N NAT	<i>Hypericum calycinum</i> L.
N NAT	<i>Hypericum majus</i> (A.Gray) Britton
N NAT	<i>Hypericum mutilum</i> L. subsp. <i>mutilum</i> <u>Iridaceae</u> Taxonomic references: <i>Chamaeiris</i> Medik., <i>Eremiris</i> (Spach) Rodion, <i>Evansia</i> (Alef.) Salisb. ex Decne., <i>Iris</i> L. s.str., <i>Siphonostylis</i> Wern.Schulze and <i>Tectiris</i> M.B.Crespo, Mart.Azorin & Mavrodiev (Peruzzi et al. 2014; Crespo et al. 2015).

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N NAT	<i>Chamaeiris orientalis</i> (Mill.) M.B.Crespo
N CAS	<i>Chamaeiris spuria</i> (L.) Medik.
N INV	<i>Chasmanthe aethiopica</i> (L.) N.E.Br. Note: Some records of this species could refer to <i>C. floribunda</i> (Salisb.) N.E.Br. (Grandis 2016).
N NAT	<i>Chasmanthe bicolor</i> (Gasp.) N.E.Br.
N INV	<i>Chasmanthe floribunda</i> (Salisb.) N.E.Br.
N NAT FER	<i>Crocasmia crocosmiiflora</i> (Lemoine) N.E.Br. Parentage: <i>C. aurea</i> (Pappe ex Hook.) Planch. × <i>C. pottsii</i> (Baker) N.E.Br. (S-Africa).
N CAS CLT	<i>Crocus × luteus</i> Lam. Parentage: <i>C. angustifolius</i> Weston × <i>C. flavus</i> Weston. Note: The plants observed in Emilia-Romagna are possibly cultivated.
A CAS CLT	<i>Crocus sativus</i> L. Note: Directly domesticated from <i>C. cartwrightianus</i> Herb. (Greece) (Nemati et al. 2018).
N NAT	<i>Crocus tommasinianus</i> Herb.
N NC	<i>Eremiris lactea</i> (Pall.) Rodion.
N NAT	<i>Evansia japonica</i> (Thunb.) Klatt
N NAT	<i>Ferraria crispa</i> Burm. subsp. <i>crispa</i>
N CAS CLT	<i>Freesia × kewensis</i> J.Wright bis nothosubsp. <i>kewensis</i> Parentage: <i>F. corymbosa</i> (Burm.f.) N.E.Br. × <i>F. leichtlinii</i> Klatt subsp. <i>alba</i> (G.L.Mey.) J.C.Manning & Goldblatt.
N NAT	<i>Freesia leichtlinii</i> Klatt subsp. <i>alba</i> (G.L.Mey.) J.C.Manning & Goldblatt
N CAS	<i>Iridodictyum reticulatum</i> (M.Bieb.) Rodion.
A NAT	<i>Iris florentina</i> L. Note: For the taxonomy and nomenclature of this species, see Martini and Viciani (2018).
A NAT FER	<i>Iris germanica</i> L. Parentage: <i>I. pallida</i> Lam. × <i>I. variegata</i> L. (eastern Mediterranean Region).
A NAT	<i>Iris pallida</i> Lam.
N CAS	<i>Iris variegata</i> L.
N CAS	<i>Melasphaerula ramosa</i> (L.) Klatt
N NAT	<i>Romulea rosea</i> (L.) Eckl.
T N CAS	<i>Siphonostylis cretensis</i> (Janka) Wern.Schulze Note: This species is doubtfully distinct from <i>S. unguicularis</i> (Poir.) Wern.Schulze (Boltenkov and Mesterházy 2022).
N NAT	<i>Siphonostylis unguicularis</i> (Poir.) Wern.Schulze
N NAT	<i>Sisyrinchium micranthum</i> Cav. Note: For the taxonomy of this species, see Weakley et al. (2023).
N NAT	<i>Sisyrinchium montanum</i> Greene Note: For the taxonomy of this species, see Banfi and Galasso (2010).
N CAS	<i>Sparaxis bulbifera</i> (L.) Ker Gawl.
N CAS	<i>Sparaxis tricolor</i> (Schneev.) Ker Gawl.
N NAT	<i>Tectiris tectorum</i> (Maxim.) M.B.Crespo, Mart.-Azorín & Mavrodiev
	<u>Juglandaceae</u> Taxonomic references: <i>Juglans</i> (Marazzi et al. 2021).
N CAS	<i>Carya illinoensis</i> (Wangenh.) K.Koch
T N NAT	<i>Juglans ailantifolia</i> Carrière Note: This species is doubtfully distinct from <i>J. mandshurica</i> Maxim. (Marazzi et al. 2021).
N CAS	<i>Juglans cinerea</i> L. Note: This species was confused with <i>J. ailantifolia</i> Carrière in Piemonte and Lombardia (Marazzi et al. 2021; Selvaggi et al. 2022). Also the record of the species in Veneto (Argenti et al. 2019) should be verified.
N INV	<i>Juglans nigra</i> L.
N NAT	<i>Pterocarya fraxinifolia</i> (Lam.) Spach
	<u>Juncaceae</u>
N NAT	<i>Juncus dichotomus</i> Elliott
N CAS	<i>Juncus ensifolius</i> Wikstr.
N NAT	<i>Juncus marginatus</i> Rostk.
N INV	<i>Juncus tenuis</i> Willd.
	<u>Lamiaceae</u> Taxonomic references: <i>Coleus</i> Lour. (Paton et al. 2019); <i>Salvia</i> L. (incl. <i>Perovskia</i> Kar.) (Drew et al. 2017); <i>Stachys</i> L. (incl. <i>Sideritis</i> L.) (Bartolucci et al. 2014; Galasso et al. 2016).
N CAS	<i>Ajuga dictyocarpa</i> Hayata
N CAS CLT	<i>Caryopteris × clandonensis</i> A.Simmonds ex C.H.Curtis Parentage: <i>C. incana</i> (Thunb. ex Houtt.) Miq. × <i>C. mongholica</i> Bunge (Great Britain).
N CAS	<i>Clerodendrum bungei</i> Steud.
N CAS	<i>Clerodendrum trichotomum</i> Thunb.
N CAS	<i>Coleus scutellarioides</i> (L.) Benth.
N CAS	<i>Dracocephalum moldavica</i> L.
N CAS	<i>Dracocephalum parviflorum</i> Nutt.
N NAT	<i>Elsholtzia ciliata</i> (Thunb.) Hyl.
N CAS	<i>Elsholtzia stauntonii</i> Benth.
N NAT	<i>Lamium galeobdolon</i> (L.) L. subsp. <i>argentatum</i> (Smejkal) J.Duvign.
N CAS	<i>Lavandula dentata</i> L. Note: The occurrence of this species in Toscana is based on an observation in 2018 in Massa (D. Marchetti, pers. comm.).
A NAT	<i>Leonurus cardiaca</i> L.
N NAT	<i>Leonurus quinquelobatus</i> Gilib.
N NAT	<i>Lycopus lucidus</i> Turcz. ex Benth.
N CAS	<i>Marrubium peregrinum</i> L.
N CAS	<i>Nepeta × faassenii</i> Bergmans ex Stearn nothosubsp. <i>faassenii</i> Parentage: <i>N. nepetella</i> L. subsp. <i>nepetella</i> × <i>N. racemosa</i> Lam. subsp. <i>racemosa</i> .
N CAS	<i>Nepeta racemosa</i> Lam. subsp. <i>racemosa</i>
A CAS	<i>Ocimum basilicum</i> L.
N D	<i>Origanum dictamnus</i> L.

(Continued)

A NAT	<i>Origanum majorana</i> L.
N CAS	<i>Perilla frutescens</i> (L.) Britton
N NAT	<i>Physostegia virginiana</i> (L.) Benth.
N NAT	<i>Pseudodictamnus mediterraneus</i> Salmaki & Siadati subsp. <i>mediterraneus</i> Note: For the nomenclature of this species, see Siadati et al. (2018).
N CAS	<i>Salvia amplexicaulis</i> Lam.
N CAS	<i>Salvia canariensis</i> L.
A CAS	<i>Salvia farinacea</i> Benth.
N CAS	<i>Salvia ×floriferior</i> Dolat. & Ziel. Parentage: <i>S. abrotanoides</i> (Kar.) Sytsma × <i>S. yangii</i> B.T.Drew.
N NAT	<i>Salvia hispanica</i> L.
N NAT	<i>Salvia leucantha</i> Cav.
N CAS	<i>Salvia microphylla</i> Kunth
N NC	<i>Salvia napifolia</i> Jacq.
A CAS	<i>Salvia officinalis</i> L. subsp. <i>lavandulifolia</i> (Vahl) Gams
N NC	<i>Salvia pinnata</i> L.
N CAS	<i>Salvia reflexa</i> Hornem.
N CAS	<i>Salvia splendens</i> Sellow ex Wied-Neuw.
A NAT	<i>Satureja hortensis</i> L.
N CAS	<i>Scutellaria albida</i> L. subsp. <i>albida</i>
N NAT	<i>Stachys byzantina</i> K.Koch
N NC	<i>Stachys perfoliata</i> (L.) Peruzzi, Bartolucci & Soldano
N CAS	<i>Stachys talbotii</i> Bartolucci & Galasso
N CAS	<i>Teucrium hircanicum</i> L.
N NAT	<i>Ziziphora capitata</i> L. subsp. <i>capitata</i>
	<u>Lardizabalaceae</u>
N NAT	<i>Akebia ×pentaphylla</i> (Makino) Makino Parentage: <i>A. quinata</i> (Thunm. ex Houtt.) Decne. × <i>A. trifoliata</i> (Thunb.) Koidz.
N CAS	<i>Akebia quinata</i> (Thunm. ex Houtt.) Decne. <u>Lauraceae</u> Taxonomic references: <i>Camphora</i> Fabr. (Huang et al. 2016; Rohde et al. 2017; Trofimov and Rohwer 2020).
N NAT	<i>Camphora glandulifera</i> (Wall.) Nees
N CAS	<i>Persea americana</i> Mill.
N NC	<i>Persea indica</i> (L.) Spreng. <u>Lentibulariaceae</u>
N NAT	<i>Utricularia gibba</i> L. <u>Liliaceae</u>
N CAS	<i>Fritillaria imperialis</i> L.
N NC	<i>Fritillaria persica</i> L.
A NAT	<i>Lilium candidum</i> L.
N D	<i>Lilium chalcedonicum</i> L.
N NAT	<i>Tulipa agenensis</i> Redouté
N NAT	<i>Tulipa clusiana</i> Redouté
N CAS CLT	<i>Tulipa gesneriana</i> L. subsp. <i>gesneriana</i> Note: Directly domesticated from <i>T. gesneriana</i> L. subsp. <i>schrenkii</i> (Regel) Nyman (= <i>T. schrenkii</i> Regel = <i>T. suaveolens</i> Roth) (Crimea; Kritskaya et al. 2020).
T N NAT	<i>Tulipa raddii</i> Rebol Note: According to Christenhusz et al. (2013), this species would be a heterotypic synonym of <i>T. agenensis</i> Redouté. However, we prefer to provisionally consider them as distinct species.
N NAT	<i>Tulipa saxatilis</i> Sieber ex Spreng. <u>Linaceae</u>
N NAT	<i>Linum austriacum</i> L.
N CAS	<i>Linum grandiflorum</i> Desf.
A CAS CLT	<i>Linum usitatissimum</i> L. subsp. <i>usitatissimum</i> Note: Directly domesticated from <i>L. usitatissimum</i> subsp. <i>angustifolium</i> (Huds.) Thell. (Middle East). <u>Linderniaceae</u>
N INV	<i>Lindernia dubia</i> (L.) Pennell Note: For the taxonomy of this species, see Lewis (2000). <u>Linnaeaceae</u>
N CAS	<i>Kolkwitzia amabilis</i> Graebn. <u>Lythraceae</u> Taxonomic references: <i>Ammannia</i> L. (Graham 1979, 1985; Banfi and Galasso 2010; Ardenghi and Galasso 2013); <i>Rotala</i> L. (Cook 1979).
N NC	<i>Ammannia baccifera</i> L.
N INV	<i>Ammannia coccinea</i> Rottb.
N NAT	<i>Ammannia robusta</i> Heer & Regel
N CAS	<i>Ammannia senegalensis</i> Lam.
N NAT	<i>Ammannia verticillata</i> (Ard.) Lam.
N CAS	<i>Cuphea hyssopifolia</i> Kunth
N CAS	<i>Lagerstroemia indica</i> L.
A NAT FER	<i>Punica granatum</i> L. Note: Feral and culton of the same species.
N NAT	<i>Rotala densiflora</i> (Roth) Koehne
N NAT	<i>Rotala filiformis</i> (Bellardi) Hiern
N NAT	<i>Rotala indica</i> (Willd.) Koehne
N NAT	<i>Rotala ramosior</i> (L.) Koehne <u>Magnoliaceae</u>
N CAS	<i>Liriodendron tulipifera</i> L.
N CAS	<i>Magnolia grandiflora</i> L.

(Continued)

N CAS	<i>Magnolia kobus</i> DC. <u>Malvaceae</u>
A INV	<i>Abutilon theophrasti</i> Medik.
N NAT	<i>Alcea biennis</i> Winterl subsp. <i>biennis</i>
A NAT FER	<i>Alcea rosea</i> L. Parentage: Unknown (Tang et al. 2007).
N NAT	<i>Alcea setosa</i> (Boiss.) Alef.
N CAS CLT	<i>Anisodonteia</i> × <i>hypomadara</i> (Sprague) D.M.Bates Parentage: Unknown.
N CAS	<i>Anoda cristata</i> (L.) Schltdl.
N CAS	<i>Brachychiton discolor</i> F.Muell.
N CAS	<i>Brachychiton diversifolius</i> R.Br. subsp. <i>diversifolius</i>
N CAS	<i>Brachychiton populneus</i> (Schott & Endl.) R.Br.
N CAS	<i>Callianthe peruviana</i> (Lam.) Dorr
N CAS	<i>Ceiba speciosa</i> (A.St.-Hil., A.Juss. & Cambess.) Ravenna
N CAS	<i>Firmiana simplex</i> (L.) W.Wight
A CAS CLT	<i>Gossypium herbaceum</i> L. subsp. <i>herbaceum</i> Note: Directly domesticated from <i>G. herbaceum</i> subsp. <i>africanum</i> (G.Watt) Vollesen (NE-Africa).
N CAS CLT	<i>Gossypium hirsutum</i> L. Note: Directly domesticated from the same species (Gulf of Mexico, coastal area).
N NAT	<i>Hibiscus moscheutos</i> L. subsp. <i>moscheutos</i> Note: For the taxonomy of this species, see Blanchard (2008).
N CAS CLT	<i>Hibiscus rosa-sinensis</i> L. Parentage: Unknown (China).
N CAS	<i>Hibiscus syriacus</i> L.
N NAT	<i>Hibiscus trionum</i> L.
N CAS	<i>Lagunaria patersonia</i> (Andrews) G.Don
N CAS	<i>Malva verticillata</i> L.
N NAT	<i>Modiola caroliniana</i> (L.) G.Don
N CAS	<i>Pavonia hastata</i> Cav.
N NAT	<i>Sida rhombifolia</i> L. subsp. <i>rhombifolia</i>
N CAS	<i>Sida spinosa</i> L.
N CAS	<i>Sphaeralcea bonariensis</i> (Cav.) Griseb.
N CAS	<i>Tilia americana</i> L.
N NAT	<i>Tilia tomentosa</i> Moench <u>Martyniaceae</u>
N CAS	<i>Ibicella lutea</i> (Lindl.) Van Eselt.
N CAS	<i>Proboscidea louisiana</i> (Mill.) Thell. <u>Mazaceae</u>
N NAT	<i>Mazus miquelii</i> Makino
N NAT	<i>Mazus pumilus</i> (Burm.f.) Steenis <u>Meliaceae</u>
N NAT	<i>Melia azedarach</i> L. <u>Menispermaceae</u>
N NAT	<i>Cocculus laurifolius</i> DC. <u>Molluginaceae</u>
N INV	<i>Glinus lotoides</i> L.
N CAS	<i>Hypertelis cerviana</i> (L.) Thulin
N INV	<i>Mollugo verticillata</i> L. <u>Montiaceae</u>
N CAS	<i>Claytonia perfoliata</i> Donn ex Willd. <u>Moraceae</u>
N INV	<i>Broussonetia papyrifera</i> (L.) Vent.
N CAS	<i>Fatoua villosa</i> (Thunb.) Nakai
N CAS	<i>Ficus elastica</i> Roxb. ex Hornem.
N CAS	<i>Ficus macrophylla</i> Pers. subsp. <i>columnaris</i> (C.Moore) P.S.Green
N NAT	<i>Ficus microcarpa</i> L.f.
N CAS	<i>Ficus pumila</i> L.
N CAS	<i>Ficus rubiginosa</i> Desf. ex Vent.
N CAS	<i>Ficus sagittata</i> Vahl
N NAT	<i>Ficus watkinsiana</i> F.M.Bailey
N NAT	<i>Maclura pomifera</i> (Raf.) C.K.Schneid.
A NAT	<i>Morus alba</i> L.
N CAS	<i>Morus indica</i> L.
T N CAS	<i>Morus kagayamae</i> Koidz. Note: This species is doubtfully distinct from <i>M. indica</i> L. (Nepal and Purintun 2021; Yang et al. 2023).
A NAT	<i>Morus nigra</i> L. <u>Musaceae</u>
N NAT	<i>Musa basjoo</i> Siebold & Zucc. ex Linum
N CAS CLT	<i>Musa</i> × <i>paradisica</i> L. Parentage: <i>M. acuminata</i> Colla × <i>M. balbisiana</i> Colla (Malaya). <u>Myrtaceae</u>
N CAS	<i>Eucalyptus astringens</i> (Maiden) Maiden subsp. <i>astringens</i>
N CAS	<i>Eucalyptus botryoides</i> Sm.
N INV	<i>Eucalyptus camaldulensis</i> Dehnh. subsp. <i>camaldulensis</i>
N NAT	<i>Eucalyptus globulus</i> Labill. subsp. <i>globulus</i>
N CAS	<i>Eucalyptus globulus</i> Labill. subsp. <i>maidenii</i> (F.Muell.) J.B.Kirp.

(Continued)

N CAS	<i>Eucalyptus gomphocephala</i> DC.
N CAS	<i>Eucalyptus leucoxylon</i> F.Muell. subsp. <i>leucoxylon</i>
N NAT	<i>Eucalyptus occidentalis</i> Endl.
N CAS	<i>Eucalyptus polyanthemos</i> Schauer subsp. <i>polyanthemos</i>
N CAS	<i>Eucalyptus propinqua</i> H.Deane & Maiden
N CAS	<i>Eucalyptus robusta</i> Sm.
N CAS	<i>Eucalyptus rudis</i> Endl. subsp. <i>rudis</i>
N CAS	<i>Eucalyptus sideroxylon</i> A.Cunn. ex Woolls
N CAS	<i>Eucalyptus tereticornis</i> Sm.
N CAS	<i>Eucalyptus ×trabutii</i> H.Vilm. nothosubsp. <i>trabutii</i> Parentage: <i>E. botryoides</i> Sm.× <i>E. camaldulensis</i> Dehnh. subsp. <i>camaldulensis</i> .
N CAS	<i>Eucalyptus viminalis</i> Labill. subsp. <i>viminalis</i>
N CAS	<i>Feijoa sellowiana</i> (O.Berg) O.Berg
N CAS	<i>Metrosideros excelsa</i> Sol. ex Gaertn. <u>Namaceae</u> Taxonomic references: Cecchi and Selvi (2014).
N NAT	<i>Wigandia caracasana</i> Kunth
N NAT	<i>Wigandia kunthii</i> Choisy <u>Nelumbonaceae</u>
N INV	<i>Nelumbo nucifera</i> Gaertn. <u>Nyctaginaceae</u> Taxonomic references: <i>Boerhavia</i> L. (Struwig and Siebert 2013).
T N INV	<i>Boerhavia coccinea</i> Mill.
T N CAS	<i>Boerhavia repens</i> L. subsp. <i>diandra</i> (L.) Maire & Weiller
N CAS	<i>Bougainvillea glabra</i> Choisy
N CAS	<i>Bougainvillea spectabilis</i> Willd.
N INV	<i>Mirabilis jalapa</i> L.
N NAT	<i>Mirabilis longiflora</i> L.
N NAT	<i>Mirabilis nyctaginea</i> (Michx.) MacMill. <u>Nymphaeaceae</u>
N NAT FER	<i>Nymphaea ×marliacea</i> Lat.-Marl. Putative parentage: <i>N. alba</i> L. (Europe)× <i>N. mexicana</i> Zucc. (Neotropic Region)× <i>N. odorata</i> Aiton var. <i>rosea</i> Pursh (N-America). Note: Author citation according to Dana et al. (2017).
N INV	<i>Nymphaea mexicana</i> Zucc.
N CAS	<i>Nymphaea ×thiona</i> D.B.Ward nothosubsp. <i>thiona</i> Parentage: <i>N. mexicana</i> Zucc.× <i>N. odorata</i> Aiton subsp. <i>odorata</i> . <u>Oleaceae</u> Taxonomic references: <i>Chrysojasminum</i> Banfi (Banfi 2014).
N NAT	<i>Chrysojasminum humile</i> (L.) Banfi
N NAT	<i>Fontanesia phillyreoides</i> Labill.
N CAS	<i>Forsythia intermedia</i> Zabel Note: Contrary to what is usually reported, it is not a hybrid (<i>F. suspensa</i> (Thunb.) Vahl× <i>F. viridissima</i> Lindl.), but a distinct species whose origin is still to be investigated (Kim and Kim 2011).
N CAS	<i>Forsythia suspensa</i> (Thunb.) Vahl
N CAS	<i>Forsythia viridissima</i> Lindl.
N CAS	<i>Fraxinus pennsylvanica</i> Marshall
N NAT	<i>Jasminum mesnyi</i> Hance
N NAT	<i>Jasminum nudiflorum</i> Lindl.
A NAT	<i>Jasminum officinale</i> L.
N CAS	<i>Jasminum polyanthum</i> Franch.
N CAS	<i>Ligustrum japonicum</i> Thunb.
N INV	<i>Ligustrum lucidum</i> W.T.Aiton
N INV	<i>Ligustrum ovalifolium</i> Hassk.
N INV	<i>Ligustrum sinense</i> Lour.
N NAT	<i>Syringa vulgaris</i> L. <u>Onagraceae</u> Taxonomic references: <i>Ludwigia</i> L. (Galasso 2007); <i>Oenothera</i> L. (Soldano 1993).
N NAT	<i>Epilobium brachycarpum</i> C.Presl
N NAT	<i>Epilobium ciliatum</i> Raf.
N CAS	<i>Epilobium nummularifolium</i> R.Cunn. ex A.Cunn.
N INV	<i>Ludwigia hexapetala</i> (Hook. & Arn.) Zardini, H.Y.Gu & P.H.Raven Note: According to Reg. (EU) No. 1143/2014, after the discovery and reporting the presence of this species in Piemonte (Antonietti et al. 2023) a project to eradicate it in the region has been undertaken. This species is to be considered invasive in Lombardia (L. Gariboldi, pers. comm.).
N INV	<i>Ludwigia peploides</i> (Kunth) P.H.Raven subsp. <i>montevidensis</i> (Spreng.) P.H.Raven Note: This species is to be considered invasive in Piemonte (A. Selvaggi, pers. comm.).
T N INV	<i>Oenothera adriatica</i> Soldano Note: According to Hassler (2020), this species could be a heterotypic synonym of <i>O. drawertii</i> Renner ex Rostański.
N NAT	<i>Oenothera biennis</i> L.
T N NAT	<i>Oenothera chicaginensis</i> de Vries ex Renner & Cleland Note: According to Rostański et al. (2010) and Rostański and Verloove (2015), this species would be a heterotypic synonym of <i>O. pycnocarpa</i> G.F.Atk. & Bartlett, but we prefer to provisionally consider them as distinct species (Soldano 1993).
N CAS	<i>Oenothera deflexa</i> R.R.Gates
N CAS	<i>Oenothera depressa</i> Greene
N NAT	<i>Oenothera fallacoides</i> Soldano & Rostański
N CAS	<i>Oenothera fruticosa</i> L. subsp. <i>tetragona</i> (Roth) W.L.Wagner
N NAT	<i>Oenothera gaura</i> W.L.Wagner & Hoch
N INV	<i>Oenothera glazioviana</i> Micheli
N CAS	<i>Oenothera grandiflora</i> L'Hér.

(Continued)

N NAT	<i>Oenothera indecora</i> Cambess.
N NAT	<i>Oenothera italica</i> Rostański & Soldano
N CAS	<i>Oenothera laciniata</i> Hill
N INV	<i>Oenothera latipetala</i> (Soldano) Soldano
N NAT	<i>Oenothera lindheimeri</i> (Engelm. & A.Gray) W.L.Wagner & Hoch
N NAT	<i>Oenothera marinellae</i> Soldano
N INV	<i>Oenothera oakesiana</i> (A.Gray) J.W.Robbins ex S.Watson
N NAT	<i>Oenothera odorata</i> Jacq.
N NAT	<i>Oenothera oehlkersii</i> Kappus ex Rostański
N CAS	<i>Oenothera parviflora</i> L.
N NAT	<i>Oenothera pedemontana</i> Soldano
N NAT	<i>Oenothera pellegrinii</i> Soldano
N CAS	<i>Oenothera pilosella</i> Raf. subsp. <i>pilosella</i>
N NAT	<i>Oenothera rosea</i> L'Hér. ex Aiton
N NAT	<i>Oenothera royfraseri</i> R.R.Gates
N INV	<i>Oenothera sesitensis</i> Soldano
N CAS	<i>Oenothera sinuosa</i> W.L.Wagner & Hoch
N NAT	<i>Oenothera speciosa</i> Nutt.
N NAT	<i>Oenothera stricta</i> Ledeb. ex Link subsp. <i>stricta</i> Note: The specific epithet was published as " <i>striata</i> ", but it is a typographical error to be corrected in " <i>stricta</i> ", according to the name published later by Ledebour (1822) (Art. 60.1 of ICN).
N INV	<i>Oenothera stucchii</i> Soldano
N NAT	<i>Oenothera suaveolens</i> Desf. ex Pers.
	<u>Orchidaceae</u>
N CAS	<i>Bletilla striata</i> (Thunb.) Rchb.f.
	<u>Orobanchaceae</u>
N NAT	<i>Leptorhabdos parviflora</i> (Benth.) Benth.
	<u>Oxalidaceae</u>
N INV	<i>Oxalis articulata</i> Savigny
N NAT	<i>Oxalis bowiei</i> W.T.Aiton ex G.Don
N CAS	<i>Oxalis brasiliensis</i> G.Lodd. ex Drapiez
N NAT	<i>Oxalis debilis</i> Kunth
N INV	<i>Oxalis dillenii</i> Jacq.
N CAS	<i>Oxalis incarnata</i> L.
N NAT	<i>Oxalis latifolia</i> Kunth
N CAS	<i>Oxalis megalorrhiza</i> Jacq.
N INV	<i>Oxalis pes-caprae</i> L.
N NAT	<i>Oxalis purpurata</i> Jacq. Note: The record for Emilia-Romagna should be referred to <i>O. articulata</i> (A. Stinca, pers. comm.).
N NAT	<i>Oxalis purpurea</i> L.
N INV	<i>Oxalis stricta</i> L.
N CAS	<i>Oxalis tetraphylla</i> Cav.
N NAT	<i>Oxalis violacea</i> L.
	<u>Paeoniaceae</u>
N NC	<i>Paeonia suffruticosa</i> Andrews subsp. <i>suffruticosa</i>
	<u>Papaveraceae</u>
N CAS	Taxonomic references: <i>Oreomecon</i> Banfi, Bartolucci, J.-M.Tison & Galasso, <i>Papaver</i> L. and <i>Roemeria</i> Medik. (Banfi, Bartolucci, et al. 2022).
N NAT	<i>Eschscholzia californica</i> Cham. subsp. <i>californica</i>
N NAT	<i>Fumaria kralikii</i> Jord.
N D	<i>Fumaria rostellata</i> Knaf
N CAS	<i>Hypecoum pendulum</i> L.
N CAS	<i>Lamprocapnos spectabilis</i> (L.) Fukuhara
T N CAS	<i>Oreomecon crocea</i> (Ledeb.) Banfi, Bartolucci, J.-M.Tison & Galasso Note: <i>Oreomecon crocea</i> is a species native to southern Siberia, central Asia and northern China and has for more than 200years been cultivated as ornamental (Siberian poppy) and erroneously traded as <i>O. nudicaulis</i> (L.) Banfi, Bartolucci, J.-M.Tison & Galasso (Elven et al. 2020 onwards). However, according to several authors (e.g. Zhang and Grey-Wilson 2008), it would fall within the variability of a highly polymorphic <i>O. nudicaulis</i> .
N NAT	<i>Papaver atlanticum</i> (Ball) Coss. subsp. <i>atlanticum</i>
N CAS	<i>Papaver cambricum</i> L.
A NAT	<i>Papaver lecoqii</i> Lamotte
N CAS	<i>Papaver orientale</i> L.
A NAT	<i>Papaver somniferum</i> L.
N CAS	<i>Roemeria hybrida</i> (L.) DC. subsp. <i>hybrida</i>
	<u>Passifloraceae</u>
N NAT	<i>Passiflora caerulea</i> L.
N CAS	<i>Passiflora incarnata</i> L.
N NAT	<i>Passiflora morifolia</i> Mast.
	<u>Paulowniaceae</u>
N INV	<i>Paulownia tomentosa</i> (Thunb.) Steud.
	<u>Pedaliaceae</u>
A CAS CLT	<i>Sesamum indicum</i> L. Note: Directly domesticated from <i>S. mulayanum</i> N.C.Nair (India-SE-Asia).
	<u>Phrymaceae</u>
N NAT	Taxonomic references: <i>Erythranthe</i> Spach (Barker et al. 2012).
N NAT	<i>Erythranthe cuprea</i> (J.Veitch & J.J.Veitch ex Dombrain) G.L.Nesom
N NAT	<i>Erythranthe guttata</i> (DC.) G.L.Nesom
N CAS	<i>Erythranthe moschata</i> (Douglas ex Lindl.) G.L.Nesom Note: For the taxonomy of this species, see Nesom (2017).

(Continued)

N CAS	Mimulus ringens L. <u>Phyllanthaceae</u> Taxonomic references: <i>Moeroris</i> (Bouman et al. 2022).
N NAT	Moeroris tenella (Roxb.) R.W.Bouman <u>Phytolaccaceae</u>
N CAS	Phytolacca acinosa Roxb.
N INV	Phytolacca americana L.
N NAT	Phytolacca dioica L. <u>Pittosporaceae</u>
N CAS	Pittosporum crassifolium Banks & Sol.
N NAT	Pittosporum tobira (Thunb.) W.T.Aiton
N NAT	Pittosporum undulatum Vent.
N CAS	Pittosporum venulosum F.Muell.
N NAT	Sollya heterophylla Lindl. <u>Plantaginaceae</u>
A NAT	Antirrhinum majus L.
N CAS	Collinsia heterophylla Buist ex Graham
N CAS	Digitalis lanata Ehrh. subsp. lanata
N NAT	Limnophila ludoviciana Thieret
N NAT	Linaria maroccana Hook.f.
N CAS	Maurandya barclayana Lindl.
N CAS	Mecardonia procumbens (Mill.) Small Note: The recorded plants can be referred to <i>M. procumbens</i> (Mill.) Small var. <i>tenella</i> (Cham. & Schtdl.) V.C.Souza (Alessandrini et al. 2020).
N D	Plantago loeflingii L.
N EX	Plantago patagonica Jacq.
N CAS	Plantago virginica L.
N CAS	Russelia equisetiformis Schtdl. & Cham.
N INV	Veronica filiformis Sm.
N NAT	Veronica peregrina L.
N INV	Veronica persica Poir. <u>Platanaceae</u>
N INV FER	Platanus hispanica Mill. ex Münchh. Parentage: <i>P. occidentalis</i> L. × <i>P. orientalis</i> L. The hybrid origin of this species is now definitely proven (Grimm and Denk 2008).
N CAS	Ceratostigma plumbaginoides Bunge <u>Plumbaginaceae</u>
N CAS	Goniolimon tataricum (L.) Boiss. subsp. tataricum
N CAS	Limonium bonduellei (T.Lestib.) Kuntze
N NAT	Plumbago auriculata Lam.
N CAS	Plumbago zeylanica L. <u>Poaceae</u> Taxonomic references: <i>Ceratochloa</i> DC. & P.Beauv. (Verloove 2012); <i>Diplachne</i> P.Beauv. (Snow et al. 2018); genera mostly follow the phylogenetic classification by Soreng et al. (2022).
N NAT	Agropyron desertorum (Fisch. ex Link) Schult.
N NAT	Amelichloa caudata (Trin.) Arriaga & Barkworth
N NAT	Aristida longispica Poir.
A INV	Arundo donax L.
A NAT	Avena atherantha C.Presl
A NAT FER	Avena fatua L. Note: Feral of <i>A. sativa</i> L. s.l. (Europe).
A INV	Avena ludoviciana Durieu
A CAS CLT	Avena sativa L. subsp. byzantina (K.Koch) Romero Zarco Note: Directly domesticated from <i>A. sterilis</i> L., weed of the culton (Vavilov mimicry) between E-Europe and Middle East.
A CAS CLT	Avena sativa L. subsp. macrantha (Hack.) Rocha Afonso Note: Domestication as in <i>A. sativa</i> subsp. <i>byzantina</i> (K.Koch) Romero Zarco.
A CAS CLT	Avena sativa L. subsp. nuda (L.) Gillet & Magne Note: Domestication as in <i>A. sativa</i> subsp. <i>byzantina</i> (K.Koch) Romero Zarco.
A CAS CLT	Avena sativa L. subsp. praegravis (Malzev) Mordv. Note: Domestication as in <i>A. sativa</i> subsp. <i>byzantina</i> (K.Koch) Romero Zarco.
A CAS CLT	Avena sativa L. subsp. sativa Note: Domestication as in <i>A. sativa</i> subsp. <i>byzantina</i> (K.Koch) Romero Zarco.
N CAS	Avena ×scholzii Tzvelev Parentage: <i>A. fatua</i> L. × <i>A. ludoviciana</i> Durieu.
A NAT	Avena sterilis L.
N CAS CLT	Avena strigosa Schreb. Note: Directly domesticated from <i>A. atlantica</i> B.R.Baum & Fedak (Morocco). Note: <i>Avena brevis</i> Roth is interpreted as a cultivar group derived from the selection of the culton <i>A. strigosa</i> , known only in cultivation or as casual alien (Sicilia).
N CAS	Bambusa bambos (L.) Voss
N DD	Bambusa multiplex (Lour.) Raeusch. ex Schult. & Schult.f.
N CAS	Beckmannia syzigachne (Steud.) Fernald
N NAT	Bothriochloa laguroides (DC.) Herter
N NAT	Bothriochloa pertusa (L.) A.Camus
N NAT	Bothriochloa saccharoides (Sw.) Rydb. subsp. saccharoides Note: This species was confused in Liguria with <i>B. laguroides</i> (DC.) Herter.
N INV	Bromopsis inermis (Leyss.) Holub subsp. inermis Note: According to Goiran (1906), this taxon is considered as non-native.
N NAT	Bromopsis riparia (Rehmann) Holub subsp. riparia
N NC	Bromus brachystachys Hornung
N CAS	Bromus japonicus Thunb. subsp. anatolicus (Boiss. & Heldr.) Péntes

(Continued)

N CAS	<i>Cenchrus clandestinus</i> (Hochst. ex Chiov.) Morrone
N CAS	<i>Cenchrus flaccidus</i> (Griseb.) Morrone
N INV	<i>Cenchrus longisetus</i> M.C.Johnst.
N INV	<i>Cenchrus longispinus</i> (Hack.) Fernald
N CAS	<i>Cenchrus purpurascens</i> Thunb.
N CAS	<i>Cenchrus purpureus</i> (Schumach.) Morrone
N INV	<i>Cenchrus setaceus</i> (Forssk.) Morrone
N INV	<i>Cenchrus spinifex</i> Cav.
N NAT	<i>Ceratochloa carinata</i> (Hook. & Arn.) Tutin Note: Several records from the Alps may refer to <i>C. sitchensis</i> (Trin.) Cope & Ryves.
N NAT	<i>Ceratochloa cathartica</i> (Vahl) Herter
N CAS	<i>Ceratochloa sitchensis</i> (Trin.) Cope & Ryves
N CAS	<i>Chloris gayana</i> Kunth
N CAS	<i>Chloris pycnothrix</i> Trin.
N CAS	<i>Chloris truncata</i> R.Br.
N CAS	<i>Chloris virgata</i> Sw.
N CAS	<i>Coix lacryma-jobi</i> L.
N INV	<i>Cortaderia selloana</i> (Schult. & Schult.f.) Asch. & Graebn.
N INV	<i>Dactyloctenium aegyptium</i> (L.) Willd.
N NC	<i>Desmazeria philistaea</i> (Boiss.) H.Scholz subsp. <i>philistaea</i>
N NAT	<i>Dichanthelium clandestinum</i> (L.) Gould
N NAT	<i>Dichanthelium implicatum</i> (Scribn.) Kerguélen Note: The correct identity of the taxon naturalized in Europe needs to be further investigated (Thomas 2015).
N INV	<i>Digitaria ciliaris</i> (Retz.) Koeler
T N NAT	<i>Digitaria violascens</i> Link Note: This species is doubtfully distinct from <i>D. ischaemum</i> (Schreb.) Muhl. subsp. <i>ischaemum</i> .
N CAS	<i>Dinebra retroflexa</i> (Vahl) Panz.
N NAT	<i>Diplachne fusca</i> (L.) P.Beauv. ex Roem. & Schult. subsp. <i>fascicularis</i> (Lam.) P.M.Peterson & N.Snow
N NAT	<i>Diplachne fusca</i> (L.) P.Beauv. ex Roem. & Schult. subsp. <i>fusca</i>
N NAT	<i>Diplachne fusca</i> (L.) P.Beauv. ex Roem. & Schult. subsp. <i>uninervia</i> (J.Presl) P.M.Peterson & N.Snow
N NAT	<i>Echinochloa colonum</i> (L.) Link subsp. <i>colonum</i>
N CAS CLT	<i>Echinochloa colonum</i> (L.) Link subsp. <i>edulis</i> (Honda) Banfi & Galasso Note: Directly domesticated from <i>E. colonum</i> (L.) Link subsp. <i>colonum</i> (India).
N NAT	<i>Echinochloa oryzicola</i> (Vasinger) Vasinger
T N NAT	<i>Echinochloa oryzoides</i> (Ard.) Fritsch Note: This species is doubtfully distinct from <i>E. crus-galli</i> (L.) P.Beauv. subsp. <i>crus-galli</i> .
N NAT	<i>Ehrharta erecta</i> Lam.
N CAS	<i>Ehrharta longiflora</i> Sm.
N NAT	<i>Eleusine coracana</i> (L.) Asch. & Graebn. subsp. <i>africana</i> (Kenn.-O'Byrne) Hilu & de Wet
N CAS CLT	<i>Eleusine coracana</i> (L.) Asch. & Graebn. subsp. <i>coracana</i> Note: Directly domesticated from <i>E. coracana</i> (L.) Gaertn. subsp. <i>africana</i> (Kenn.-O'Byrne) Hilu & de Wet (W-Africa).
N INV	<i>Eleusine indica</i> (L.) Gaertn.
N NAT	<i>Eleusine tristachya</i> (Lam.) Lam.
N CAS	<i>Eragrostis capillaris</i> (L.) Nees
N NAT	<i>Eragrostis curvula</i> (Schrud.) Nees
N NAT	<i>Eragrostis frankii</i> (Fisch., C.A.Mey. & Avé-Lall.) Steud.
N CAS	<i>Eragrostis lugens</i> Nees
N INV	<i>Eragrostis pectinacea</i> (Michx.) Nees
N NAT	<i>Eragrostis virescens</i> J.Presl
N CAS	<i>Festuca pulchra</i> Schur
N CAS	<i>Glyceria grandis</i> S.Watson
N NAT	<i>Glyceria striata</i> (Lam.) Hitchc.
N NC	<i>Hackelochloa granularis</i> (L.) Kuntze
N CAS	× <i>Haynaldoticum sardoum</i> Meletti & Onnis nothosubsp. <i>sardoum</i> Putative prentage: <i>Dasyphyrum villosum</i> (L.) P.Candargy× <i>Triticum turgidum</i> L. subsp. <i>durum</i> (Desf.) Husn. Note: The parental names used in the condensed formula of this nothogenus are not those that are now accepted for the parental genera, i.e. <i>Dasyphyrum</i> (Coss. & Durieu) T.Durand and <i>Triticum</i> L. (Art. H.8.1 of ICN).
N NAT	<i>Hordeum jubatum</i> L.
A CAS CLT	<i>Hordeum vulgare</i> L. subsp. <i>vulgare</i> Note: Directly domesticated from <i>H. vulgare</i> L. subsp. <i>spontaneum</i> (K.Koch) Thell. (SE-Turkey).
A NAT	<i>Lolium remotum</i> Schrank
A NAT	<i>Lolium temulentum</i> L.
N NAT	<i>Megathyrsus maximus</i> (Jacq.) B.K.Simon & S.W.L.Jacobs Note: Both <i>Megathyrsus maximus</i> var. <i>maximus</i> and <i>M. maximus</i> var. <i>pubiglumis</i> (K.Schum.) B.K.Simon & S.W.L.Jacobs (= <i>M. bivonanus</i> (Brullo, Miniss., Scelsi & Spamp.) Verloove) were recorded in Sicilia (Banfi, Bajona, et al. 2022).
N CAS?	<i>Melica altissima</i> L.
N INV	<i>Melinis repens</i> (Willd.) Zizka subsp. <i>repens</i>
N CAS	<i>Miscanthus floridulus</i> (Labill.) Warb. ex K.Schum. & Lauterb.
N CAS	<i>Miscanthus</i> × <i>longiberbis</i> (Hack.) Nakai Parentage: <i>M. sacchariflorus</i> (Maxim.) Benth. & Hook.f. ex Franch.× <i>M. sinensis</i> Andersson.
N NAT	<i>Miscanthus sinensis</i> Andersson
N NAT	<i>Muhlenbergia frondosa</i> (Poir.) Fernald
N CAS	<i>Muhlenbergia mexicana</i> (L.) Trin.
N INV	<i>Muhlenbergia schreberi</i> J.F.Gmel.
N CAS	<i>Nassella formicarum</i> (Delile) Barkworth
N CAS	<i>Nassella hyalina</i> (Nees) Barkworth
N NAT	<i>Nassella neesiana</i> (Trin. & Rupr.) Barkworth
N CAS	<i>Nassella tenuissima</i> (Trin.) Barkworth

(Continued)

N NAT	Nassella trichotoma (Nees) Hack. ex Arechav.
A INV FER	Oryza sativa L. subsp. sativa Note: Feral of the same taxon, in turn directly domesticated from <i>O. sativa</i> L. subsp. <i>rufipogon</i> (Griff.) de Wet (SE-Asia).
N INV	Panicum capillare L.
N INV	Panicum dichotomiflorum Michx.
N D	<i>Panicum hillmanii</i> Chase
A NAT FER	Panicum miliaceum L. Note: Feral and directly domesticated from the same species (China and Mongolia, northern steppes).
N INV	Panicum philadelphicum Bernh. ex Trin.
N CAS	Panicum virgatum L.
N NAT	Paspalum dasypleurum Kunze ex É.Desv.
N NAT	Paspalum denticulatum Trin.
N INV	Paspalum dilatatum Poir.
N INV	Paspalum distichum L.
N CAS	Paspalum exaltatum J.Presl
N CAS	Paspalum notatum Flügge
N NAT	Paspalum quadrifarium Lam.
N NAT	Paspalum thunbergii Kunth ex Steud.
N NAT	Paspalum vaginatum Sw.
N INV	Phalaris canariensis L.
N NAT	Phyllostachys aurea Carrière ex Rivière & C.Rivière
N CAS	Phyllostachys aureosulcata McClure
N CAS	Phyllostachys bissetii McClure
N NAT	Phyllostachys edulis (Carrière) J.Houz.
N NAT	Phyllostachys flexuosa Rivière & C.Rivière
N NAT	Phyllostachys nigra (hort. Lodd. ex Lindl.) Munro
N NAT	Phyllostachys reticulata (Rupr.) K.Koch
N CAS	Phyllostachys sulphurea (Carrière) Rivière & C.Rivière
N NAT	Phyllostachys violascens (Carrière) Rivière & C. Rivière
N NAT	Phyllostachys viridiglaucescens (Carrière) Rivière & C.Rivière
N NAT	Phyllostachys viridis (R.A.Young) McClure
N CAS	Phyllostachys vivax McClure
N NAT FER	Piptatherum holciforme (M.Bieb.) Roem. & Schult. subsp. holciforme Note: Feral of the same taxon, in turn directly domesticated from <i>P. holciforme</i> subsp. <i>holciforme</i> var. <i>blancheanum</i> (É.Desv. ex Boiss.) Boiss. (archaeological site Ohalo II, Lake Tiberias, Israel, dated to 23,000 years ago).
N CAS	Pleiblastus pygmaeus (Miq.) Nakai
N NAT	Pleiblastus viridistriatus (Regel) Makino
N D	<i>Polypogon fugax</i> Nees ex Steud.
N NAT	Psathyrostachys juncea (Fisch.) Nevski
N NAT	Pseudosasa japonica (Siebold & Zucc. ex Steud.) Makino ex Nakai
N NAT	Saccharum biflorum Forssk.
A CAS CLT	Saccharum officinarum L. Note: Directly domesticated from <i>S. robustum</i> E.W.Brandes & Jeswiet ex Grassl (New Guinea).
A CAS CLT	Secale cereale L. subsp. cereale Note: Directly domesticated in eastern Europe from <i>S. cereale</i> subsp. <i>ancestrale</i> Zhuk. (SE-Turkey), a former weed of cereal fields (Vavilov mimicry).
N NAT	Semiarundinaria fastuosa (Lat.-Marl. ex Mitford) Makino
N NAT	Setaria adhaerens (Forssk.) Chiov.
N NAT	Setaria faberi R.A.W.Herrm.
A CAS CLT	Setaria italica (L.) P.Beauv. subsp. italica Note: Directly domesticated from <i>S. italica</i> subsp. <i>viridis</i> (L.) Thell. (China). Note: Experimental fields of <i>S. italica</i> (L.) P.Beauv. subsp. <i>moharia</i> (Alef.) R.A.W.Herrm. (= <i>S. germanica</i> (Mill.) P.Beauv.) can be found in Lombardia.
N NAT FER	Setaria italica (L.) P.Beauv. subsp. pynocoma (Steud.) de Wet Note: Feral of <i>S. italica</i> subsp. <i>italica</i> , in turn directly domesticated from <i>S. italica</i> subsp. <i>viridis</i> (L.) Thell.
N NAT	Setaria parviflora (Poir.) Kerguelen
A CAS CLT	Sorghum bicolor (L.) Moench subsp. bicolor Note: Directly domesticated from <i>S. bicolor</i> subsp. <i>verticilliflorum</i> (Steud.) de Wet ex Wiersema & J.Dahlb. (W-Africa).
A INV FER	Sorghum halepense (L.) Pers. Parentage: <i>S. drummondii</i> (Steud.) Nees ex Millsp. & Chase (derived from <i>S. bicolor</i> (L.) Moench subsp. <i>bicolor</i> × <i>S. bicolor</i> subsp. <i>arundinaceum</i> (Desv.) de Wet & J.R.Harlan ex Davidse) × <i>S. propinquum</i> (Kunth) Hitchc. (SE-Asia).
N NC	Sporobolus alterniflorus (Loisel.) P.M.Peterson & Saarela
N INV	Sporobolus anglicus (C.E.Hubb.) P.M.Peterson & Saarela Parentage: Allohexaploid originating from a hybrid <i>S. alterniflorus</i> (Loisel.) P.M.Peterson & Saarela × <i>S. maritimus</i> (Curtis) P.M.Peterson & Saarela.
N NAT	Sporobolus cryptandrus (Torr.) A.Gray
N NAT	Sporobolus indicus (L.) R.Br.
N CAS	Sporobolus michauxianus (Hitchc.) P.M.Peterson & Saarela
N INV	Sporobolus neglectus Nash
N INV	Sporobolus pumilus (Roth) P.M.Peterson & Saarela
N INV	Sporobolus ×townsendii (H.Groves & J.Groves) P.M.Peterson & Saarela Parentage: <i>S. alterniflorus</i> (Loisel.) P.M.Peterson & Saarela × <i>S. maritimus</i> (Curtis) P.M.Peterson & Saarela.
N INV	Sporobolus vaginiflorus (Torr. ex A.Gray) Alph.Wood
N NAT	Stenotaphrum secundatum (Walter) Kuntze
N EX	Themeda triandra Forssk.
N NAT	Thinopyrum obtusiflorum (DC.) Banfi
N CAS CLT	× Triticosecale neoblaringhemii A.Camus nothosubsp. neoblaringhemii Parentage: <i>Secale cereale</i> L. subsp. <i>cereale</i> × <i>Triticum turgidum</i> L. subsp. <i>durum</i> (Desf.) Husn. Note: The record of × <i>Triticosecale</i> Wittm. ex A.Camus from Lombardia (Ardenghi and Polani 2016) is to be referred to this nothosubspecies (E. Banfi and N.M.G. Ardenghi, pers. comm.).

(Continued)

A CAS CLT	<i>Triticum aestivum</i> L. subsp. aestivum Parentage: <i>T. tauschii</i> (Coss.) Schmalh. × <i>T. turgidum</i> L. subsp. <i>dicoccon</i> (Schrang ex Schübl.) Thell. (W-Fertile Crescent).
A DD CLT	<i>Triticum aestivum</i> L. subsp. compactum (Host) Mac Key Parentage: As in <i>T. aestivum</i> L. subsp. <i>aestivum</i> .
A CAS CLT	<i>Triticum aestivum</i> L. subsp. spelta (L.) Thell. Parentage: As in <i>T. aestivum</i> L. subsp. <i>aestivum</i> .
N CAS	<i>Triticum caudatum</i> (L.) Raspail
A NAT	<i>Triticum cylindricum</i> (Host) Ces., Pass. & Gibelli
A CAS CLT	<i>Triticum monococcum</i> L. subsp. monococcum Note: Directly domesticated from <i>T. monococcum</i> subsp. <i>aegilopoides</i> (Link) Thell. (SE-Turkey, Karaca Dağ mountains).
N NC	<i>Triticum peregrinum</i> Hack. subsp. peregrinum
A CAS	<i>Triticum</i> × <i>requienii</i> Ces., Pass. & Gibelli nothosubsp. requienii Parentage: <i>T. aestivum</i> L. subsp. <i>aestivum</i> × <i>T. vagans</i> (Jord. & Fourr.) Greuter.
N CAS	<i>Triticum speltooides</i> (Tausch) Gren. subsp. ligusticum (Savign.) Chennav.
N CAS	<i>Triticum speltooides</i> (Tausch) Gren. subsp. speltooides
A CAS CLT	<i>Triticum turgidum</i> L. subsp. dicoccon (Schrang ex Schübl.) Thell. Note: Directly domesticated from <i>T. turgidum</i> subsp. <i>dicoccoides</i> (Körn. ex Asch. & Graebn.) Thell. [<i>T. speltooides</i> (Tausch) Gren. × <i>T. urartu</i> Tumanian ex Gandiljan] (Fertile Crescent).
A CAS CLT	<i>Triticum turgidum</i> L. subsp. durum (Desf.) Husn. Note: Domestication as in <i>T. turgidum</i> subsp. <i>dicoccon</i> (Schrang ex Schübl.) Thell.
N CAS CLT	<i>Triticum turgidum</i> L. subsp. uranicum (Jakubz.) Á.Löve & D.Löve Note: Domestication as in <i>T. turgidum</i> subsp. <i>dicoccon</i> (Schrang ex Schübl.) Thell. Traded under the name of "Kamut" (<i>T. turgidum</i> subsp. <i>uranicum</i> 'QK-77 Montana').
A CAS CLT	<i>Triticum turgidum</i> L. subsp. turgidum Note: Domestication as in <i>T. turgidum</i> subsp. <i>dicoccon</i> (Schrang ex Schübl.) Thell.
N CAS CLT	<i>Zea mays</i> L. subsp. mays Parentage: <i>Z. mays</i> subsp. <i>parviglumis</i> Ittis & Doebley (Mexico: Michoacán, Balsas River valley) → <i>Z. mays</i> subsp. <i>mexicana</i> (Schrang.) Ittis (Mexico: Zacatecas, volcanic plateau).
N CAS	<i>Zizania latifolia</i> (Griseb.) Hance ex F.Muell.
N CAS	<i>Zoysia japonica</i> Steud.
N CAS	<i>Zoysia matrella</i> (L.) Merr. <u>Polemoniaceae</u>
N NAT	<i>Collomia linearis</i> Nutt.
N CAS	<i>Phlox caespitosa</i> Nutt.
N CAS	<i>Phlox paniculata</i> L. <u>Polygalaceae</u>
N CAS	<i>Polygala myrtifolia</i> L. <u>Polygonaceae</u> Taxonomic references: <i>Koenigia</i> L. (Schuster et al. 2015); <i>Persicaria</i> (L.) Mill. (Galasso et al. 2014); <i>Pleuropterus</i> Turcz. and <i>Reynoutria</i> Houtt. (Padula et al. 2008; Galasso et al. 2009).
N NAT	<i>Fagopyrum dibotrys</i> (D.Don) H.Hara
N NAT	<i>Fagopyrum esculentum</i> Moench
N CAS	<i>Fagopyrum tataricum</i> (L.) Gaertn.
N INV	<i>Fallopia baldschuanica</i> (Regel) Holub
N NAT	<i>Koenigia polystachya</i> (Wall. ex Meisn.) T.M.Schust. & Reveal
N NAT	<i>Muehlenbeckia sagittifolia</i> (Ortega) Meisn.
N NAT	<i>Persicaria bungeana</i> (Turcz.) Nakai
N NAT	<i>Persicaria capitata</i> (Buch.-Ham. ex D.Don.) H.Gross
N INV	<i>Persicaria filiformis</i> (Thunb.) Nakai
N NAT	<i>Persicaria longiseta</i> (Brujin) Kitag.
N INV	<i>Persicaria nepalensis</i> (Meisn.) H.Gross
N NAT	<i>Persicaria orientalis</i> (L.) Spach
N INV	<i>Persicaria pennsylvanica</i> (L.) M.Gómez
N NAT	<i>Persicaria senegalensis</i> (Meisn.) Soják
N INV	<i>Persicaria virginiana</i> (L.) Gaertn.
N INV	<i>Pleuropterus multiflorus</i> (Thunb.) Nakai
N D	<i>Polygonum arenarium</i> Waldst. & Kit. subsp. <i>arenarium</i>
N CAS	× <i>Reyloppia conollyana</i> (J.P.Bailey) Galasso Parentage: <i>Fallopia baldschuanica</i> (Regel) Holub × <i>Reynoutria japonica</i> Houtt.
N INV	<i>Reynoutria bohemica</i> Chrtk & Chrtková Parentage: <i>R. japonica</i> Houtt. × <i>R. sachalinensis</i> (F.Schmidt) Nakai.
N CAS	<i>Reynoutria compacta</i> (Hook.f.) Nakai
N INV	<i>Reynoutria japonica</i> Houtt.
N INV	<i>Reynoutria sachalinensis</i> (F.Schmidt) Nakai
N NAT	<i>Rheum officinale</i> L.
N CAS	<i>Rheum palmatum</i> L.
N CAS	<i>Rheum rhabarbarum</i> L.
N NAT	<i>Rumex kernerii</i> Borbás
N CAS	<i>Rumex longifolius</i> DC.
N NAT	<i>Rumex lunaria</i> L.
A NAT	<i>Rumex patientia</i> L. subsp. patientia
N CAS CLT	<i>Rumex rugosus</i> Campd. Parentage: <i>R. thyrsiflorus</i> Fingerh., with possible involvement of another unknown species.
N CAS	<i>Rumex stenophyllus</i> Ledeb.
N NAT	<i>Rumex thyrsiflorus</i> Fingerh.
N NAT	<i>Rumex triangulivalvis</i> (Danser) Rech.f.
N D	<i>Rumex vesicarius</i> L. <u>Pontederiaceae</u>

(Continued)

	Taxonomic references: <i>Heteranthera</i> Ruiz. & Pav. (Soldano 1992); <i>Pontederia</i> L. (Pellegrini et al. 2018).
N NAT	<i>Heteranthera limosa</i> (Sw.) Willd.
N INV	<i>Heteranthera reniformis</i> Ruiz & Pav.
N NAT	<i>Heteranthera rotundifolia</i> (Kunth) Griseb.
N NAT	<i>Pontederia cordata</i> L.
N INV	<i>Pontederia crassipes</i> Mart.
N CAS	<i>Pontederia korsakowii</i> (Regel & Maack) M.Pell. & C.N.Horn
	<u>Portulacaceae</u>
N NAT	<i>Portulaca grandiflora</i> Hook.
N CAS	<i>Portulaca umbraticola</i> Kunth
	<u>Primulaceae</u>
N NAT	<i>Cyclamen persicum</i> Mill.
	Note: The occurrence of this species in Toscana is based on an observation in 2018 in Massa (D. Marchetti, pers. comm.).
N D	<i>Lysimachia maritima</i> (L.) Galasso, Banfi & Soldano
N CAS	<i>Primula florindae</i> Kingdon-Ward
N CAS	<i>Primula vulgaris</i> Huds. subsp. <i>rubra</i> (Sm.) Arcang.
	<u>Proteaceae</u>
N CAS	<i>Grevillea robusta</i> A.Cunn. ex R.Br.
	<u>Ranunculaceae</u>
N CAS CLT	<i>Aconitum</i> ×<i>cammarum</i> L.
	Parentage: <i>A. napellus</i> L. group × <i>A. variegatum</i> L. s.l.
N NAT	<i>Anemone blanda</i> Schott & Kotschy
N NAT	<i>Anemone pavonina</i> Lam.
N CAS	<i>Aquilegia coerulea</i> E.James
N NAT FER	<i>Aquilegia</i> cv.
	Parentage: Unknown. Note: The plants found in Lombardia (Ardenghi and Polani 2016) are a selection of hybrids between <i>A. canadensis</i> L. (eastern N-America), <i>A. chrysantha</i> A.Gray (southwestern N-America), <i>A. coerulea</i> E.James (western N-America) and <i>A. saximontana</i> Rydb. (Colorado).
N CAS	<i>Clematis armandii</i> Franch.
N NAT	<i>Clematis tangutica</i> (Maxim.) Korsh.
N NAT	<i>Delphinium hispanicum</i> Willk. ex Costa
N D	<i>Garidella nigellastrum</i> L.
N CAS	<i>Helleborus orientalis</i> Lam.
A CAS	<i>Nigella sativa</i> L.
N CAS	<i>Ranunculus asiaticus</i> L.
	<u>Resedaceae</u>
N CAS	<i>Reseda odorata</i> L.
	<u>Rhamnaceae</u>
	Taxonomic references: <i>Colletia</i> Comm. ex Juss. (Tortosa 1989; Galasso 2013).
N CAS	<i>Colletia spinosissima</i> J.F.Gmel.
A NAT	<i>Ziziphus jujuba</i> Mill.
	<u>Rosaceae</u>
	Taxonomic references: <i>Cotoneaster</i> Medik. (Fryer and Hylmö 2009); <i>Crataegus</i> L. (Phipps 2015); <i>Mespilus</i> L. (Phipps 2016a, 2016b); <i>Sorbus</i> L. (Bartolucci et al. 2018, 2024).
N D	<i>Agrimonia repens</i> L.
N CAS	<i>Alchemilla mollis</i> (Buser) Rothm.
N NAT	<i>Amelanchier lamarckii</i> F.G.Schroed.
	Note: For the identification of this species, see Schroeder (1972).
N CAS	<i>Chaenomeles japonica</i> (Thunb.) Lindl. ex Spach
N CAS	<i>Chaenomeles speciosa</i> (Sweet) Nakai
N CAS	<i>Cotoneaster acutifolius</i> Turcz.
N CAS	<i>Cotoneaster apiculatus</i> Rehder & E.H.Wilson
N NAT	<i>Cotoneaster bullatus</i> Bois
N NAT	<i>Cotoneaster dammeri</i> C.K.Schneid. subsp. <i>dammeri</i>
N NAT	<i>Cotoneaster dielsianus</i> E.Pritz. ex Diels
N CAS	<i>Cotoneaster divaricatus</i> Rehder & E.H.Wilson
	Note: This species was confused in Piemonte with <i>C. simonsii</i> Baker.
N INV	<i>Cotoneaster franchetii</i> Bois
N CAS	<i>Cotoneaster hissarius</i> Pojark.
N NAT	<i>Cotoneaster hjelmqvistii</i> Flinck & B.Hylmö
N INV	<i>Cotoneaster horizontalis</i> Decne.
N NAT	<i>Cotoneaster lacteus</i> W.W.Sm.
N CAS	<i>Cotoneaster nitens</i> Rehder & E.H.Wilson
N NAT	<i>Cotoneaster pannosus</i> Franch.
N NAT	<i>Cotoneaster salicifolius</i> Franch.
N NAT	<i>Cotoneaster simonsii</i> Baker
	Note: For the nomenclature of this species, see Fryer and Zika (2014).
A NAT	<i>Crataegus azarolus</i> L.
N NAT	<i>Crataegus coccinea</i> L.
N CAS	<i>Crataegus crus-galli</i> L.
N CAS	<i>Crataegus mexicana</i> Moc. & Sessé ex DC.
N CAS	<i>Crataegus persimilis</i> Sarg.
N NAT	<i>Crataegus submollis</i> Sarg.
A NAT	<i>Cydonia oblonga</i> Mill.
N CAS CLT	<i>Fragaria ananassa</i> (Weston) Rozier
	Parentage: Allooctoploid originating from the hybrid <i>F. chiloensis</i> (L.) Mill. × <i>F. virginiana</i> Mill.
N CAS	<i>Fragaria virginiana</i> Mill.

(Continued)

N NAT FER	Kerria japonica (L.) DC. Note: Feral and culton of the same species (Japan). The escaped plants correspond to the cultivar Flore Pleno.
A NAT FER	Malus domestica (Suckow) Borkh. Parentage: <i>M. sieversii</i> (Ledeb.) M.Roem. (Transcaspiian Region) → <i>M. sylvestris</i> (L.) Mill. (Europe).
N NAT	Malus hupehensis (Pamp.) Rehder
N CAS	Malus ×robusta (Carrière) Rehder Parentage: <i>M. baccata</i> (L.) Borkh. × <i>M. prunifolia</i> (Willd.) Borkh.
A NAT	Mespilus germanica L.
N CAS	Photinia serratifolia (Desf.) Kalkman
N NAT	Physocarpus opulifolius (L.) Maxim.
N CAS	Potentilla atrosanguinea G.Lodd. ex D.Don
N INV	Potentilla indica (Andrews) Th.Wolf
N NAT	Potentilla intermedia L.
N NAT	Potentilla norvegica L.
N CAS	Poteridium annuum (Nutt.) Spach
A CAS CLT	Prunus armeniaca L. Note: Directly domesticated from the same species (Transcaspiian Region: Kazakhstan/China, Tien Shan mountains).
A NAT FER	Prunus cerasifera Ehrh. Note: Feral and culton of the same species (Asia Minor).
A NAT FER	Prunus cerasus L. Note: Feral of the same species, in turn directly domesticated from <i>P. fruticosa</i> Pall. (Balkan Region).
A NAT FER	Prunus domestica L. Parentage: <i>P. cerasifera</i> Ehrh. (Pontic Turkey) × <i>P. microcarpa</i> C.A.Mey. (Hyrcanic Region, Caspiian Sea) → <i>P. spinosa</i> L. (Europe).
A NAT FER	Prunus dulcis (Mill.) D.A.Webb Note: Feral of the same species, in turn directly domesticated from <i>P. fenzliana</i> Fritsch (Turkey).
N CAS CLT	Prunus ×hybrida (Schmidt) Galasso, Banfi & Bartolucci Parentage: <i>P. dulcis</i> (Mill.) D.A.Webb ♀ × <i>P. persica</i> (L.) Batsch ♂. Note: For the nomenclature of this species, see Banfi et al. (2018). Under the Art. H.10.2 of ICN, the names “ <i>amygdalo-persica</i> ”, “ <i>communi-persica</i> ” and “ <i>persico-amygdala</i> ” (see Rehder 1921) are considered to be formulae and not true epithets.
N INV	Prunus laurocerasus L.
A NAT FER	Prunus persica (L.) Batsch Note: Feral and culton of the same species (China).
N INV	Prunus serotina Ehrh.
N CAS	Pyracantha angustifolia (Franch.) C.K.Schneid.
T N NAT	Pyracantha crenatoserrata (Hance) Rehder Note: This species is doubtfully distinct from <i>P. crenulata</i> (D.Don) M.Roem., and it is sometimes improperly named <i>P. fortuneana</i> (Maxim.) H.L.Li (e.g. Gu and Spongberg 2003). However, the type of the latter taxon material does not belong to the genus <i>Pyracantha</i> M.Roem., but to <i>Photinia</i> Lindl. (Webb et al. 1988; Clement 2012).
N NAT	Pyracantha crenulata (D.Don) M.Roem.
N CAS	Pyracantha koidzumii (Hayata) Rehder
N CAS	Pyrus betulifolia Bunge
N CAS	Pyrus calleryana Decne.
A CAS CLT	Pyrus communis L. subsp. communis Note: Directly domesticated from <i>P. communis</i> subsp. <i>pyraster</i> (L.) Ehrh.
N NAT	Rhaphiolepis bibas (Lour.) Galasso & Banfi
N CAS	Rhaphiolepis umbellata (Thunb.) Makino
N CAS CLT	Rosa alba L. Putative parentage: <i>R. corymbifera</i> Borkh. × <i>R. gallica</i> L.
N NAT	Rosa banksiae W.T.Aiton
N CAS	Rosa blanda Aiton
N NAT	Rosa bracteata J.C.Wendl.
N NAT	Rosa brunonii Lindl.
A CAS CLT	Rosa centifolia L. Putative parentage: <i>R. ×damascena</i> L. × <i>Rosa</i> sp.
N CAS CLT	Rosa chinensis Jacq. Note: Directly domesticated from <i>R. chinensis</i> var. <i>spontanea</i> (Rehder & E.H.Wilson) T.T.Yu & T.C.Ku (China). This species in Toscana is possibly cultivated.
N CAS	Rosa foetida Herrm.
N CAS	Rosa moschata Herrm.
N INV	Rosa multiflora Thunb.
N CAS	Rosa roxburghii Tratt.
N NAT	Rosa rugosa Thunb.
N CAS	Rosa virginiana Mill.
N NAT	Rubus armeniacus Focke
N NAT	Rubus laciniatus Weston
N CAS	Rubus odoratus L.
N INV	Rubus phoenicolasius Maxim.
N CAS	Sorbaria sorbifolia (L.) A.Braun Note: This species may have been confused with <i>S. tomentosa</i> (Lindl.) Rehder, marked by glabrous carpels and follicles (Rahn 1989; Tomaszewski 2001).
N NAT	Sorbaria tomentosa (Lindl.) Rehder
N D	Sorbus hybrida (L.) L. Note: The records from Abruzzo and Lombardia have to be referred to <i>S. ×thuringiaca</i> (Nyman) Fritsch nothosubsp. <i>thuringiaca</i> , a native hybrid between <i>S. aria</i> (L.) Crantz and <i>S. aucuparia</i> L. subsp. <i>aucuparia</i> .
N CAS	Spiraea cantoniensis Lour.
N INV	Spiraea japonica L.f.
N NAT	Spiraea salicifolia L.
N CAS CLT	Spiraea ×vanhouttei (Briot) Carrière Parentage: <i>S. cantoniensis</i> Lour. × <i>S. trilobata</i> L.

(Continued)

	<u>Rubiaceae</u>
N CAS	<i>Coprosma repens</i> A.Rich.
N CAS	<i>Galium humifusum</i> M.Bieb.
N NAT	<i>Galium rubioides</i> L. subsp. <i>rubioides</i>
N NAT	<i>Galium saxatile</i> L.
A NAT	<i>Rubia tinctorum</i> L.
	<u>Rutaceae</u>
	Taxonomic references: <i>Citrus</i> L. (incl. <i>Poncirus</i> Raf.) (Bayer et al. 2009; Penjor et al. 2013).
N CAS	<i>Choisya ternata</i> Kunth
A CAS CLT	<i>Citrus ×aurantium</i> L.
	Parentage: <i>C. maxima</i> (Burnm.) Merr. × <i>C. reticulata</i> Blanco. Note: For the nomenclature of this hybrid, see Mabberley (1997, 2004).
A CAS CLT	<i>Citrus ×limon</i> (L.) Osbeck
	Parentage: <i>C. ×aurantium</i> L. × <i>C. medica</i> L. Note: For the nomenclature of this hybrid, see Mabberley (1997, 2004).
N CAS	<i>Citrus trifoliata</i> L.
N CAS	<i>Ptelea trifoliata</i> L.
N CAS	<i>Tetradium daniellii</i> (Benn.) T.G.Hartley
N NAT	<i>Zanthoxylum armatum</i> DC.
	<u>Salicaceae</u>
	Taxonomic references: <i>Salix</i> L. (Skvortsov 1999).
N NAT	<i>Populus balsamifera</i> L.
N INV FER	<i>Populus ×canadensis</i> Moench nothosubsp. <i>canadensis</i>
	Parentage: <i>P. deltoides</i> W.Bartram ex Marshall subsp. <i>deltoides</i> × <i>P. nigra</i> L. subsp. <i>nigra</i> .
N NAT	<i>Populus deltoides</i> W.Bartram ex Marshall subsp. <i>deltoides</i>
N CAS CLT	<i>Salix babylonica</i> L.
	Note: Directly domesticated from the same species (E-Asia). Most of the records for this species could refer to <i>S. ×pendulina</i> Wender.
N CAS	<i>Salix dasyclados</i> Wimm.
N NAT	<i>Salix eriocephala</i> Michx.
A CAS	<i>Salix euxina</i> I.V.Belyaeva
	Note: Marchenko and Kuzovkina (2022) recommended the conservation of the name <i>S. ×fragilis</i> L. with a new type to preserve the traditional usage of the name. Waiting for a formal nomenclatural act, we continue to follow the nomenclature proposed by Belyaeva (2009).
A NAT	<i>Salix ×fragilis</i> L.
	Parentage: <i>S. alba</i> L. × <i>S. euxina</i> I.V.Belyaeva. Note: See the note to <i>Salix euxina</i> I.V.Belyaeva.
N CAS CLT	<i>Salix ×pendulina</i> Wender.
	Parentage: <i>S. alba</i> L. × <i>S. babylonica</i> L. × <i>S. euxina</i> I.V.Belyaeva (Belyaeva et al. 2018).
A NAT	<i>Salix viminalis</i> L.
	<u>Santalaceae</u>
N NAT	<i>Thesium ramosum</i> Hayne
	<u>Sapindaceae</u>
N CAS	<i>Acer buergerianum</i> Miq. subsp. <i>buergerianum</i>
N INV	<i>Acer negundo</i> L.
N CAS	<i>Acer palmatum</i> Thunb.
N CAS	<i>Acer pensylvanicum</i> L.
N CAS	<i>Acer rubrum</i> L.
N NAT	<i>Acer saccharinum</i> L.
N NAT	<i>Acer tataricum</i> L. subsp. <i>ginnala</i> (Maxim.) Wesm.
N CAS	<i>Acer tataricum</i> L. subsp. <i>tataricum</i>
N CAS CLT	<i>Aesculus carnea</i> J.Zeyh.
	Parentage: Allotetraploid originating from the hybrid <i>A. hippocastanum</i> L. (Balkan Peninsula) × <i>A. pavia</i> L. (N-America).
N CAS	<i>Aesculus hippocastanum</i> L.
N CAS	<i>Alectryon tomentosus</i> (F.Muell.) Radlk.
N NAT	<i>Cardiospermum grandiflorum</i> Sw.
N NAT	<i>Cardiospermum halicacabum</i> L.
N CAS	<i>Koelreuteria bipinnata</i> Franch.
N NAT	<i>Koelreuteria paniculata</i> Laxm.
	<u>Saururaceae</u>
N NAT	<i>Houttuynia cordata</i> Thunb.
N NAT	<i>Saururus cernuus</i> L.
	<u>Saxifragaceae</u>
N CAS	<i>Astilbe japonica</i> (C.Morren & Decne.) A.Gray
N CAS CLT	<i>Astilbe ×rosea</i> G.Van Wav. & Kruijff
	Note: For the nomenclature of this hybrid, see POWO (2023 onwards), however it is not certain that the name is validly published. Parentage: <i>A. chinensis</i> (Maxim.) Franch. & Sav. × <i>A. japonica</i> (C.Morren & Decne.) A.Gray.
N CAS	<i>Bergenia crassifolia</i> (L.) Fritsch
N CAS	<i>Heuchera sanguinea</i> Engelm.
N D	<i>Saxifraga ×geum</i> L. nothosubsp. <i>geum</i>
	Parentage: <i>S. hirsuta</i> L. subsp. <i>hirsuta</i> × <i>S. umbrosa</i> L. Note: this nothospecies was generically reported for northern Italy, without distribution, by Pignatti et al. (2017a). This record could refer to <i>S. hirsuta</i> L. subsp. <i>hirsuta</i> .
N DD	<i>Saxifraga hirsuta</i> L. subsp. <i>hirsuta</i>
	Note: This species was generically reported for northern Italy, without distribution, by Pignatti et al. (2017a).
N CAS	<i>Saxifraga stolonifera</i> Curtis
N NAT	<i>Saxifraga umbrosa</i> L.
	<u>Scrophulariaceae</u>
	Taxonomic references: <i>Buddleja</i> L. (Chau et al. 2017); <i>Myoporum</i> Sol. ex G.Forst. (Chinnock 2007).
N INV	<i>Buddleja davidii</i> Franch.
N CAS	<i>Buddleja madagascariensis</i> Lam.
N CAS	<i>Chaenostoma cordatum</i> (Thunb.) Benth.
N INV	<i>Myoporum insulare</i> R.Br.
N NAT	<i>Myoporum laetum</i> G.Forst.

(Continued)

N NAT	<i>Myoporum tetrandrum</i> (Labill.) Domin
N CAS	<i>Verbascum speciosum</i> Schrad. subsp. <i>speciosum</i>
N NAT	<i>Verbascum virgatum</i> Stokes
	<u>Simaroubaceae</u>
N INV	<i>Ailanthus altissima</i> (Mill.) Swingle
	<u>Solanaceae</u>
	Taxonomic references: <i>Solanum</i> L. (Vorontsova and Knapp 2016; Särkinen et al. 2018; Aubriot and Knapp 2022; Knapp et al. 2023).
N CAS	<i>Brugmansia aurea</i> Lagerh.
N CAS	<i>Brugmansia suaveolens</i> (Humb. & Bonpl. ex Willd.) Sweet
N CAS CLT	<i>Capsicum annuum</i> L.
	Note: Directly domesticated from <i>C. annuum</i> var. <i>glabriusculum</i> (Dunal) Heiser & Pickersgill (Barboza et al. 2022) (Mexico).
N INV	<i>Cestrum parqui</i> L'Hér.
N NAT	<i>Datura ferox</i> L.
N INV	<i>Datura innoxia</i> Mill.
N CAS	<i>Datura quercifolia</i> Kunth
N INV	<i>Datura stramonium</i> L.
N INV	<i>Datura wrightii</i> Regel
	Note: For the taxonomy of this species, see Verloove et al. (2010).
N INV	<i>Jaborosa integrifolia</i> Lam.
N NAT	<i>Lycianthes rantonnetii</i> (Carrière) Bitter
N CAS	<i>Lycium afrum</i> L.
N NAT	<i>Lycium barbarum</i> L.
N NAT	<i>Lycium boerhaviifolium</i> L.f.
N NAT	<i>Lycium chinense</i> Mill.
N NAT	<i>Lycium ferocissimum</i> Miers
A CAS	<i>Mandragora officinarum</i> L.
N NAT	<i>Nicandra physalodes</i> (L.) Gaertn.
N CAS	<i>Nicotiana alata</i> Link & Otto
N INV	<i>Nicotiana glauca</i> Graham
N CAS	<i>Nicotiana rustica</i> L.
N CAS CLT	<i>Nicotiana</i> × <i>sanderæ</i> W.Watson
	Parentage: <i>N. alata</i> Link & Otto × <i>N. forgetiana</i> Hemsl. (Clarkson et al. 2004).
N CAS	<i>Nicotiana suaveolens</i> Lehm.
N CAS	<i>Nicotiana sylvestris</i> Spieg.
N CAS CLT	<i>Nicotiana tabacum</i> L.
	Parentage: <i>N. sylvestris</i> Spieg. × <i>N. tomentosiformis</i> Goodsp. (Clarkson et al. 2004) (SE-Bolivia/NW-Argentina).
N NAT FER	<i>Petunia atkinsiana</i> (Sweet) D.Don ex W.H.Baxter
	Parentage: <i>P. axillaris</i> (Lam.) Britton, Sterns & Poggenb. × <i>P. inflata</i> R.E.Fr. (<i>P. integrifolia</i> clade) (Bombarely et al. 2016).
N CAS	<i>Petunia axillaris</i> (Lam.) Britton, Sterns & Poggenb.
N NAT	<i>Physalis angulata</i> L.
N CAS	<i>Physalis ixocarpa</i> Brot. ex Hornem.
N NAT	<i>Physalis longifolia</i> Nutt.
	Note: <i>P. longifolia</i> is an accepted name, not a synonym of <i>P. virginiana</i> Mill. (Pretz and Deanna 2020).
N CAS	<i>Physalis nicandroides</i> Schldl.
N NAT	<i>Physalis peruviana</i> L.
N CAS	<i>Physalis philadelphica</i> Lam.
N NAT	<i>Physalis pubescens</i> L.
N CAS	<i>Physalis viscosa</i> L.
N INV	<i>Salpichroa organifolia</i> (Lam.) Baill.
N CAS	<i>Solandra maxima</i> (Sessé & Moc.) P.S.Green
N CAS	<i>Solanum abutiloides</i> (Griseb.) Bitter & Lillo
N CAS	<i>Solanum aviculare</i> G.Forst.
N NAT	<i>Solanum bonariense</i> L.
N INV	<i>Solanum carolinense</i> L.
N INV	<i>Solanum chenopodioides</i> Lam.
N CAS	<i>Solanum citrullifolium</i> A.Braun
	Note: This species was recorded as spontaneous in Lombardia only within the Botanical Garden of Pavia.
N INV	<i>Solanum elaeagnifolium</i> Cav.
N CAS	<i>Solanum heterodoxum</i> Dunal
N NAT	<i>Solanum laciniatum</i> Aiton
N NAT	<i>Solanum lanceolatum</i> Cav.
	Note: For the taxonomy of this species, see Cambria et al. (2015).
N INV	<i>Solanum linnaeanum</i> Hepper & P.-M.L.Jaeger
N CAS CLT	<i>Solanum lycopersicum</i> L.
	Note: Directly domesticated from <i>S. lycopersicum</i> L. var. <i>cerasiforme</i> Alef. (Mexico) with some contributions from <i>S. pimpinellifolium</i> L. (Razifard et al. 2020).
N CAS	<i>Solanum mauritianum</i> Scop.
A CAS CLT	<i>Solanum melongena</i> L. subsp. <i>melongena</i>
	Note: Directly domesticated from <i>S. melongena</i> subsp. <i>insanum</i> (L.) Banfi, Galasso & Bartolucci (SE-Asia) (Knapp et al. 2013).
N NAT	<i>Solanum nitidibaccatum</i> Bitter
N NAT	<i>Solanum pseudocapsicum</i> L.
N NAT	<i>Solanum rostratum</i> Dunal
N NAT	<i>Solanum seaforthianum</i> Andrews
N INV	<i>Solanum sisymbriifolium</i> Lam.
N CAS	<i>Solanum torvum</i> Sw.
	Note: This species was confused in Sicilia with <i>S. lanceolatum</i> Cav.
N CAS	<i>Solanum triflorum</i> Nutt.

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N CAS CLT	<i>Solanum tuberosum</i> L. Note: This is a complex of South American landraces and tetraploid modern cultivars, possibly derived in the Andes from <i>S. candolleanum</i> Berthault (= <i>S. bukasovii</i> Juz. ex Rybin) (Hardigan et al. 2017; Tang et al. 2022).
A NAT	<i>Withania somnifera</i> (L.) Dunal
N CAS	<u>Strelitziaceae</u> <i>Strelitzia nicolai</i> Regel & Körn.
N CAS	<u>Talinaceae</u> <i>Talinum paniculatum</i> (Jacq.) Gaertn.
N CAS	<u>Tamaricaceae</u> <i>Tamarix chinensis</i> Lour.
N NAT	<i>Tamarix macrocarpa</i> (Ehrenb.) Bunge
N CAS	<i>Tamarix mascatensis</i> Bunge
T N NAT	<i>Tamarix meyeri</i> Boiss. Note: This species is doubtfully distinct from <i>T. tetragyna</i> Ehrenb.
N D	<i>Tamarix nilotica</i> (Ehrenb.) Bunge
N NAT	<i>Tamarix parviflora</i> DC.
N NAT	<i>Tamarix passerinoides</i> Delile ex Desv.
T N NAT	<i>Tamarix rosea</i> Bunge Note: This species is doubtfully distinct from <i>T. hampeana</i> Boiss. & Heldr.
N CAS	<i>Tamarix tetrandra</i> Pall. ex M.Bieb.
N INV	<u>Tropaeolaceae</u> <i>Tropaeolum majus</i> L.
N CAS	<i>Tropaeolum pentaphyllum</i> Lam.
N INV	<u>Ulmaceae</u> <i>Ulmus pumila</i> L.
N NAT	<u>Urticaceae</u> <i>Boehmeria nivea</i> (L.) Gaudich.
N CAS	<i>Pilea microphylla</i> (L.) Liebm.
N NAT	<u>Valerianaceae</u> <i>Centranthus macrosiphon</i> Boiss.
N CAS	<i>Valeriana phu</i> L. <u>Verbenaceae</u> Taxonomic references: <i>Lantana</i> L. (Sanders 2012); <i>Verbena</i> L. (Nesom 2010; Verloove 2011).
N CAS	<i>Aloysia citrodora</i> Paláu
N CAS	<i>Glandularia bipinnatifida</i> (Schauer) Nutt.
N CAS CLT	<i>Glandularia hybrida</i> (Groenland & Rümpler) G.L.Nesom & Pruski Parentage: Unknown.
N CAS	<i>Glandularia platensis</i> (Spreng.) Schnack & Covas
N CAS	<i>Glandularia tenera</i> (Spreng.) Cabrera
N CAS CLT	<i>Lantana</i> Callowiana Hybrid Group Parentage: This is a putatively horticultural hybrid complex between a tetraploid cultivar of <i>L. depressa</i> Small var. <i>depressa</i> (endemic to Florida) and <i>L. strigocamara</i> R.W.Sanders (this latter, in turn, a complex hybrid of cultivated origin; Sanders 2006).
N NAT	<i>Lantana camara</i> L. subsp. <i>aculeata</i> (L.) R.W.Sanders
N CAS	<i>Lantana camara</i> L. subsp. <i>camara</i>
N CAS	<i>Lantana camara</i> L. subsp. <i>glandulosissima</i> (Hayek) R.W.Sanders
N CAS	<i>Lantana depressa</i> Small Note: Possibly, records of this species could refer to <i>Lantana</i> Callowiana Hybrid Group. A re-examination of the pertinent specimens would be desirable (Del Guacchio et al. 2020).
N CAS	<i>Lantana montevidensis</i> (Spreng.) Briq.
N CAS	<i>Lippia alba</i> (Mill.) N.E.Br. ex Britton & P.Wilson
N NAT	<i>Phyla canescens</i> (Kunth) Greene
N NAT	<i>Phyla nodiflora</i> (L.) Greene
N NAT	<i>Verbena bonariensis</i> L.
N NAT	<i>Verbena brasiliensis</i> Vell.
N NAT	<i>Verbena incompta</i> P.W.Michael
N CAS	<i>Verbena rigida</i> Spreng.
N CAS	<u>Viburnaceae</u> <i>Viburnum carlesii</i> Hemsl.
N CAS	<i>Viburnum rhytidophyllum</i> Hemsl.
N CAS	<u>Violaceae</u> Taxonomic references: <i>Viola</i> L. (Gil-Ad 1997; McKinney and Russell 2002; Little and McKinney 2015).
N CAS	<i>Viola adunca</i> Sm.
N NAT	<i>Viola cornuta</i> L.
N CAS	<i>Viola palmata</i> L.
N INV	<i>Viola sororia</i> Willd. Note: Past records of <i>Viola cucullata</i> Aiton should be likely attributed to <i>V. sororia</i> .
N CAS CLT	<i>Viola wittrockiana</i> Gams ex Nauenb. & Buttler Parentage: <i>V. altaica</i> Ker Gawl. (W-Siberia) × <i>V. lutea</i> Huds. (CW-Europe) → <i>V. tricolor</i> L. (Eurasia).
N NAT	<u>Vitaceae</u> Taxonomic references: <i>Vitis</i> L. (Ardenghi et al. 2014; Ardenghi, Banfi, et al. 2015; Ardenghi, Galasso, et al. 2015; Vázquez Pardo and García Alonso 2017).
N NAT	<i>Ampelopsis glandulosa</i> (Wall.) Momiy.
T N INV	<i>Parthenocissus inserta</i> (A.Kern.) Fritsch Note: This name is sometimes regarded as a heterotypic synonym of <i>P. quinquefolia</i> (L.) Planch., but it seems well distinct on molecular grounds (Lu et al. 2012). The distribution area remains to be defined; this species is possibly more spread and invasive than <i>P. quinquefolia</i> .

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was recently proposed by Pinzani and Ceschin (2023). Also social networks and citizen science initiatives could be used to obtain valuable information and early warning on these species (Marcenò, Padullés Cubino, Chytrý, Genduso, Gristina, et al. 2021; Marcenò, Padullés Cubino, Chytrý, Genduso, Salemi, et al. 2021). Although national and local studies demonstrated that some habitats are more prone than others to be invaded by alien species (Malavasi et al. 2018; Guarino et al. 2021; Campagnaro et al. 2022), alien plant invasions in Italy need to be explored with more focused research, also to implement the legislation (Brundu et al. 2020). The critical update achieved so far will greatly contribute to the global knowledge and management of alien plants (Pagad et al. 2018; van Kleunen et al. 2018), allowing to design surveillance programs (Sandercock et al. 2023) and eradication measures (Lorenzo and Morais 2023).

Finally, by considering the native taxa reported by Bartolucci et al. (2024), we can state that the whole Italian flora includes 10,023 (8241 native, 1782 alien) taxa. Accordingly, alien flora as a whole represents 21.62% of native flora, while established aliens (899) are 10.91% of native flora. These numbers will be further updated in the future by publishing the data in the columns “Notulae to the Italian native vascular flora” and “Notulae to the Italian alien vascular flora”, published every six months in the journal Italian Botanist and then stored in FlorItaly (Martellos et al. 2020).

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