Plant Biosystems - An International Journal Dealing with all Aspects of Plant Biology

Official Journal of the Societa Botanica Italiana

ISSN: 1126-3504 (Print) 1724-5575 (Online) Journal homepage: http://www.tandfonline.com/loi/tplb20

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To cite this article: G. Galasso, F. Conti, L. Peruzzi, N. M. G. Ardenghi, E. Banfi, L. Celesti-Grapow, A. Albano, A. Alessandrini, G. Bacchetta, S. Ballelli, M. Bandini Mazzanti, G. Barberis, L. Bernardo, C. Blasi, D. Bouvet, M. Bovio, L. Cecchi, E. Del Guacchio, G. Domina, S. Fascetti, L. Gallo, L. Gubellini, A. Guiggi, D. Iamonico, M. Iberite, P. Jiménez-Mejías, E. Lattanzi, D. Marchetti, E. Martinetto, R. R. Masin, P. Medagli, N. G. Passalacqua, S. Peccenini, R. Pennesi, B. Pierini, L. Podda, L. Poldini, F. Prosser, F. M. Raimondo, F. Roma-Marzio, L. Rosati, A. Santangelo, A. Scoppola, S. Scortegagna, A. Selvaggi, F. Selvi, A. Soldano, A. Stinca, R. P. Wagensommer, T. Wilhalm & F. Bartolucci (2018): An updated checklist of the vascular flora alien to Italy, Plant Biosystems - An International Journal Dealing with all Aspects of Plant Biology, DOI: 10.1080/11263504.2018.1441197

To link to this article: https://doi.org/10.1080/11263504.2018.1441197

PLANT BIOSYSTEMS - AN INTERNATIONAL JOURNAL DEALING WITH ALL ASPECTS OF PLANT BIOLOGY, 2018
https://doi.org/10.1080/11263504.2018.1441197

An updated checklist of the vascular flora alien to Italy

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ABSTRACT

An updated inventory of the vascular flora alien to Italy, providing details on the occurrence at regional level, is presented. The checklist includes 1597 species, subspecies, and hybrids, distributed in 725 genera and 152 families; 2 taxa are lycophytes, 11 ferns and fern allies, 33 gymnosperms, and 1551 angiosperms. 157 taxa are archaeophytes and 1440 neophytes. The alien taxa currently established in Italy are 791 (570 naturalized and 221 invasive), while 705 taxa are casual aliens, 4 are not assessed, 7 are of unknown regional distribution, 47 have not been confirmed in recent times, 3 are considered extinct or possibly extinct in the country, and 40 are doubtfully occurring in Italy. This checklist allows to establish an up-to-date number (9792) of taxa constituting the whole (native and alien) Italian flora.

ARTICLE HISTORY
Received 12 February 2018
Accepted 13 February 2018

KEYWORDS
Floristic diversity; Mediterranean flora; non-native flora; plant invasion; taxonomy

Introduction

Similarly to other European countries, Italy has a long tradition in the study of alien plants, which started around the late nineteenth century with the publication of contributions on single species recognized as non-native (Ardenghi et al. 2015b, and literature cited therein), followed by more detailed and extensive checklists (Béguinot and Mazza 1916a, 1916b; Viegi et al. 1974). After the publication of *Flora d'Italia* (Pignatti 1982), the first enumeration of the vascular flora alien to Italy resulted in the publication of the first checklist of the Italian vascular flora (Conti et al. 2005, updated by Conti et al. 2007); this included only the established (naturalized and invasive) taxa, for a total of 782 species and subspecies, archaeophytes excluded. A growing interest in the non-native flora, with special regard to distribution and invasiveness across the country, led to the publication of a first comprehensive inventory of the alien flora of Italy

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Supplemental data for this article can be accessed at https://doi.org/10.1080/11263504.2018.1441197.

Published online 13 Mar 2018

(Celesti-Grapow et al. 2009a, 2009b), listing 1023 species and subspecies, of which 103 archaeophytes and 920 neophytes.

In the following years, a relevant amount of data concerning the vascular flora alien to Italy appeared in the columns *Notulae alla checklist della flora vascolare italiana* (2005–2009), *Notulae alla flora esotica d'Italia* (2009–2015), and *Notulae to the Italian alien vascular flora* (2016 onwards, Galasso et al. 2016a, 2016b, 2017a, 2017b), published in the journals *Informatore Botanico Italiano* and *Italian Botanist*, as well as in regional inventories (e.g., Banfi and Galasso 2010; Arrigoni and Viegi 2011; Podda et al. 2012; Bouvet 2013; Celesti et al. 2016; Puddu et al. 2016; Roma-Marzio et al. 2016; Del Guacchio and La Valva 2017; Lucchese 2017), taxonomic contributions (e.g., Ardenghi et al. 2015a; Iamonico 2015), and single records of national or continental relevance (e.g., Ardenghi 2013; Galasso et al. 2014; Stinca et al. 2014; Iberite and Iamonico 2015; Sani et al. 2015; Scafidi et al. 2016; Stinca et al. 2016; Alessandrini et al. 2017; Ardenghi et al. 2017; Salerno and Stinca 2017; Stinca et al. 2017). In order to summarize all the available floristic data and taxonomic knowledge of the Italian alien vascular flora, an updated checklist was needed.

In this context, we decided to publish an inventory exclusively dedicated to the alien vascular flora (archaeophytes and neophytes) (Galasso et al. 2016c), separately from the checklist of the native (including doubtfully native) taxa (Bartolucci et al. 2016, 2018).

This paper is the result of a choral work (see also Peruzzi 2018) which involved many researchers who have voluntarily contributed relevant information about distribution and systematic or nomenclatural issues, as regional and/or taxonomic advisers (Appendix S1).

The aim of this contribution is to provide an updated inventory of the vascular flora alien to Italy, to serve as a taxonomic and nomenclatural platform for further research in floristic, taxonomic, geobotanical, or environmental studies.

Materials and methods

To update the checklist of the vascular flora alien to Italy, we followed the latest nomenclatural, taxonomic, and systematic studies available in literature (see Bartolucci et al. 2018).

In order to recognize the taxa as non-native to Italy, we used the national standardized system developed by the research group who previously worked on this topic (Celesti-Grapow et al. 2009a, 2009b, 2010), based on the definitions provided by Pyšek et al. (2004):

- alien (synonyms: non-native, non-indigenous, introduced, exotic, allochthonous): a plant occurring in a given area, whose presence in Italy is due to intentional or unintentional human activity, or which naturally spreads from an area where it is non-native. We did not include those taxa that are only found as escaped from cultivation in botanical gardens or non-accessible areas such as private gardens, or sites closed to public visits. We considered hybrids between native and non-native taxa as aliens. We considered as aliens also those taxa which were involved in domestication processes such as culta and ferals;
- casual (synonym: not established): alien plants that may thrive and even produce offsprings occasionally outside cultivation, but that usually disappear because unable to form self-maintaining populations; their persistence rely on repeated introductions;
- naturalized (synonym: established): alien plants that occur with self-maintaining populations without direct human intervention;
- invasive: alien plants that occur with self-maintaining populations without direct human intervention, produce fertile offspring at considerable distances from the parent individuals, thus being able to spread over a large area;
- archaeophytes: alien plants introduced to Italy before 1492;
- neophytes: alien plants introduced to Italy after 1492.

For the systematic order and taxonomic circumscription of the families and the nomenclature of the taxa, we refer to Bartolucci et al. (2018) and literature cited therein. The list was carefully checked to reduce as much as possible the numerous errors found in several studies involving alien species (Jacobs et al. 2017).

The distribution of taxa on a regional scale was updated based on the records published between 2005 and 2017 in the columns *Notulae alla checklist della flora vascolare italiana*, *Notulae alla flora esotica d'Italia*, and *Notulae to the Italian alien vascular Flora*, and on floristic contributions and taxonomic revisions.

The distribution data (for details on the regional distribution, see Appendix S2) are coded following the same criteria given in Bartolucci et al. (2018); for each taxon it is given with the following symbols, for Italy as a whole and for each administrative region:

- occurring as a casual alien: "CAS" in the main text, "P A CAS" in Appendix S2;
- occurring with an undefined invasion status, likely as casual alien: "CAS?" in the main text, "CAS?" (whole Italy) or "P A" (regional level) in Appendix S2;
- occurring as a naturalized alien: "NAT" in the main text, "P A NAT" in Appendix S2;
- occurring as an invasive alien: "INV" in the main text, "P A INV" in Appendix S2;
- no longer recorded (historical, reliable, record; it is unclear whether it is a casual alien or a naturalized alien possibly extinct in Italy): "NC" in the main text, "NC A" in Appendix S2;
- extinct or possibly extinct: "EX" in the main text, "EX A" in Appendix S2;
- data deficient (unknown regional distribution; unknown alien staus): "DD" in the main text, "DD A" in Appendix S2;
- doubtfully occurring: "D" in the main text, "D A" in Appendix S2;
- 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:

- culton (Hetterscheid and Brandenburg 1995) (synonyms: *planta culta*, cultivated plant): plant distinct from its wild relative(s) and capable to conserve its taxonomic

independence in cultivation only; records from the wild are regarded as casual occurrences: "CLT";
- feral: wild plant originated from a culton escaped from domestication and usually taxonomically distinct from the culton's wild relative; it can either belong to the same taxon of the culton or belong to a different taxon: "FER".

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

- "Directly domesticated from": when the crop selection took place from a single wild starting taxon, without collateral genomic contributions. In this case, when available, the subspecies rank was used according to Harlan and de Wet (1971);
- "Parentage": when more than one taxon is involved starting from the wild and/or during the crop selection processes. The parentage is also indicated for all hybrids.

In the checklist, families are ordered taxonomically, while respective genera, species, and subspecies are listed alphabetically. The taxa doubtfully occurring in Italy are indicated only in italics (not in bold italics). The list includes hybrids, but not varieties. Taxa alien to some regions (alien in Italy, regional aliens) but native to Italy and cryptogenic taxa or doubtful aliens (Carlton 1996) were not considered here, but included in the native checklist (Bartolucci et al. 2018).

Taxonomic references concerning one or more genera are added below the families. Notes on taxonomy, nomenclature, and distribution are included in the list after each taxon. The lists of synonyms, misapplied, and included names (Appendix S3), along with the list of taxa to be excluded from Italy (Appendix S4), are available as supplementary material.

Results

The checklist includes 1597 species, subspecies, and hybrids (including NC, EX, D), belonging to 725 genera and 152 families. The lycophytes are represented by 2 families, 2 genera, 2 species, and ferns and fern allies by 5 families, 9 genera and 11 species. The gymnosperms are represented by 4 families, 20 genera, and 33 species, subspecies, and hybrids. The angiosperms include 1551 species, subspecies, and hybrids grouped in 694 genera and 141 families. The most represented families (≥50 taxa) and genera (≥20 taxa) are respectively (Table 1): Poaceae (163), Asteraceae (161), Fabaceae (76), Rosaceae (73), and Solanaceae (53); *Amaranthus* (30), *Oenothera* (29), *Opuntia* (22), *Cyperus* (21), and *Solanum* (20).

The taxa currently established in Italy are 791 (570 naturalized, 221 invasive), 705 are casual, 4 are not assessed (possibly casual), 7 are data deficient (unknown regional distribution, possibly casual), 47 have not been confirmed in recent times, 3 are

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

Families	Taxa	Genera	Taxa
Poaceae	163	*Amaranthus*	30
Asteraceae	161	*Oenothera*	29
Fabaceae	76	*Opuntia*	22
Rosaceae	73	*Cyperus*	21
Solanaceae	53	*Solanum*	20
Asparagaceae	45	*Euphorbia*	19
Brassicaceae	44	*Centaurea*	15
Cactaceae	38	*Avena*	13
Amaranthaceae	37	*Oxalis*	13
Lamiaceae	36	*Triticum*	13
Onagraceae	32	*Bidens*	12
Polygonaceae	32	*Eucalyptus*	12
		Phyllostachys	12
		Rosa	11
		Symphyotrichum	11

Table 2. Invasion status of taxa alien to Italy in each of the 20 administrative regions.

	CAS	CAS?	DD	NAT	INV	NC	EX	D	Tot. A
LOM	400	0	0	248	111	1	5	11	776
VEN	328	5	0	183	67	26	0	9	618
TOS	243	11	0	214	51	38	1	22	580
TAA	373	7	0	136	40	4	2	15	577
EMR	249	11	0	219	27	18	6	7	537
PIE	185	1	0	234	67	14	14	11	526
LAZ	285	1	0	127	38	17	0	14	482
SAR	270	4	0	120	63	3	0	21	481
LIG	251	0	0	139	19	37	0	10	456
SIC	181	5	0	200	17	19	0	15	437
FVG	211	8	0	148	35	19	0	15	436
CAM	205	0	0	135	46	34	0	13	433
PUG	206	0	0	110	21	15	0	9	361
MAR	187	6	0	85	40	30	0	8	356
ABR	189	0	0	119	34	4	0	4	350
UMB	182	7	0	71	12	2	0	12	286
CAL	110	3	0	105	29	17	0	3	267
BAS	118	4	0	71	19	3	0	5	220
MOL	84	2	0	68	26	0	0	5	185
VDA	64	1	0	48	20	7	0	9	149
ITA	705	4	7	570	221	47	3	40	1597

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

Table 3. Number of neophytes and archaeophytes, casual aliens included, recorded for the 20 Italian administrative regions.

	Neophytes	Archaeophytes
LOM	651	125
VEN	509	109
TAA	473	104
TOS	465	115
PIE	430	96
EMR	427	110
LAZ	385	97
LIG	381	75
SAR	375	106
SIC	359	78
FVG	343	93
CAM	336	97
PUG	281	80
MAR	261	95
ABR	245	105
CAL	201	66
UMB	189	97
BAS	138	82
MOL	116	69
VDA	115	34
ITA	1440	157

Notes: LOM: Lombardia; VEN: Veneto; TAA: Trentino-Alto Adige; TOS: Toscana; PIE: Piemonte; EMR: Emilia-Romagna; LAZ: Lazio; LIG: Liguria; SAR: Sardegna; SIC: Sicilia; FVG: Friuli Venezia Giulia; CAM: Campania; PUG: Puglia; MAR: Marche; ABR: Abruzzo; CAL: Calabria; UMB: Umbria; BAS: Basilicata; MOL: Molise; VDA: Valle d'Aosta; ITA: Italy.

Table 4. Number of alien taxa in relation to the native ones in each of the 20 administrative regions.

	Establ. Aliens	Tot. Aliens	Establ. Native	NAT+INV%	A%	Establ. Flora	Tot. Native	Tot. Flora
LOM	359	776	3303	10.87	23.49	3662	3429	4205
PIE	301	526	3508	8.58	14.99	3809	3535	4061
TOS	265	580	3391	7.81	17.10	3656	3400	3980
VEN	250	618	3268	7.65	18.91	3518	3338	3956
EMR	246	537	2827	8.70	19.00	3073	2843	3380
SIC	217	437	2782	7.80	15.71	2999	2787	3224
FVG	183	436	3134	5.84	13.91	3317	3147	3583
SAR	183	481	2378	7.70	20.23	2561	2441	2922
CAM	181	433	2826	6.40	15.32	3007	2828	3261
TAA	176	577	3238	5.44	17.82	3414	3504	4081
LAZ	165	482	3028	5.45	15.92	3193	3047	3529
LIG	158	456	3050	5.18	14.95	3208	3080	3536
ABR	153	350	3207	4.77	10.91	3360	3216	3566
CAL	134	267	2788	4.81	9.58	2922	2799	3066
PUG	131	361	2568	5.10	14.06	2699	2577	2938
MAR	125	356	2535	4.93	14.04	2660	2540	2896
MOL	94	185	2324	4.04	7.96	2418	2327	2512
BAS	90	220	2606	3.45	8.44	2696	2607	2827
UMB	83	286	2400	3.46	11.92	2483	2406	2692
VDA	68	149	2322	2.93	6.42	2390	2333	2482
ITA	791	1597	8195	9.65	19.49	8985	8195	9792

Notes: Establ. Aliens (naturalized + invasive): currently established aliens; Tot. Aliens: total aliens; Establ. Native (native + cryptogenic + established regional aliens): currently established native; NAT + INV% (Establ. Aliens*100/Establ. Native): percentage of established aliens with respect to the established native flora; A% (Tot Aliens*100/Establ. Native): percentage of total aliens with respect to the established native flora; Establ. Flora (Establ. Aliens + Establ. Native): total established flora; Tot. Native (Establ. Native + casual regional aliens): total native flora; Tot. Flora (Tot. Aliens + Tot. Native): total flora. LOM: Lombardia; PIE: Piemonte; TOS: Toscana; VEN: Veneto; EMR: Emilia-Romagna; SIC: Sicilia; FVG: Friuli Venezia Giulia; SAR: Sardegna; CAM: Campania; TAA: Trentino-Alto Adige; LAZ: Lazio; LIG: Liguria; ABR: Abruzzo; CAL: Calabria; PUG: Puglia; MAR: Marche; MOL: Molise; BAS: Basilicata; UMB: Umbria; VDA: Valle d'Aosta; ITA: Italy. Numbers about native taxa are derived from Bartolucci et al. (2018).

possibly (locally) extinct (*Plantago patagonica*, *Sagittaria platyphylla*, *Themeda triandra*), and 40 are doubtfully occurring in the country (Table 2); 86 were recorded by mistake (Appendix S4). Looking at the taxa involved in past domestication processes, 102 taxa are culta, 40 are ferals, while additional 1 taxa are regarded as doubtful culta.

The Italian alien flora includes 1440 neophytes and 157 archaeophytes (Table 3). By considering the native taxa reported by Bartolucci et al. (2018), the whole Italian flora includes 9792 taxa (native hybrids excluded), i.e. 8195 native and 1597 aliens (19.49% of native flora), of which 791 are established aliens (9.65% of native flora) (Table 4).

As many as 14 out of the 23 alien species of Union concern (Regulation (EU) 1143/2014, Commission Implementing Regulations (EU) 2016/1141 and 2017/1263), occur in Italy; 13 are invasive also at national level, while one (*Asclepias syriaca*) is considered as naturalized (Table 5).

The administrative regions showing the highest number of alien taxa are Lombardia (776, of which 359 established), Veneto (618, of which 250 established), Toscana (580, of which 265 established), Trentino-Alto Adige (577, of which 176 established), Emilia-Romagna (537, of which 246 established), and Piemonte (526, of which 301 established) (Table 4). Aliens of Union concern mostly occur in Veneto (11), Lombardia (10), Emilia-Romagna (8), Piemonte (8), and Toscana (8).

Table 5. Alien taxa of Union concern in compliance with Regulation (EU) 1143/2014, Commission Implementing Regulations (EU) 2016/1141 and 2017/1263.

Taxon	Status	Name appearing in the Regulations
Alternanthera philoxeroides	INV	Same
Asclepias syriaca	NAT	Same
Baccharis halimifolia	INV	Same
Cenchrus setaceus	INV	*Pennisetum setaceum* (Forssk.) Chiov.
Eichhornia crassipes	INV	Same
Elodea nuttallii	INV	Same
Heracleum mantegazzianum	INV	Same
Hydrocotyle ranunculoides	INV	Same
Impatiens glandulifera	INV	Same
Lagarosiphon major	INV	Same
Ludwigia hexapetala	INV	*L. grandiflora* (Michx.) Greuter & Burdet subsp. *hexapetala* (Hook. & Arn.) G.L.Nesom & Kartesz
Ludwigia peploides subsp. *montevidensis*	INV	*Ludwigia peploides* (Kunth) P.H.Raven
Myriophyllum aquaticum	INV	Same
Pueraria lobata	INV	Same

Notes: INV: invasive alien in Italy; NAT: naturalized in Italy.

Checklist of the vascular flora alien to Italy

	Lycophytes
	Lycopodiaceae
N CAS	***Lycopodiella cernua*** (L.) Pic.Serm.
	Selaginellaceae
N CAS	***Selaginella kraussiana*** (Kunze) A.Braun
	Ferns and fern allies
	Salviniaceae
N INV	***Azolla filiculoides*** Lam.
N NC	***Salvinia adnata*** Desv. – Note: de la Sota (1995) pointed out that the earlier name *S. adnata* should replace *S. molesta* D.S.Mitch. However, Moran and Smith (1999) argued that *S. adnata* is of uncertain application, possibly pertaining to either *S. biloba* Raddi or *S. molesta*. Although Desvaux's type specimen is vegetative, de la Sota (2001) provided some hints for distinguishing *S. biloba* and *S. molesta* also from vegetative parts, demonstrating that the name *S. adnata* should be applied to the plants formerly known as *S. molesta*. Schwartsburd and Miranda (2017) proposed to reject this name, but their proposal has not yet been considered by the Nomenclatural Committee for Vascular Plants.
	Pteridaceae
N CAS	***Onychium japonicum*** (Thunb.) Kunze
N CAS	***Pteris multifida*** Poir.
N CAS	***Pteris nipponica*** W.C.Shieh – For the systematics of this species, see Jaruwattanaphan et al. (2013).
	Thelypteridaceae
N CAS	***Cyclosorus dentatus*** (Forssk.) Ching
	Dryopteridaceae
N NAT	***Cyrtomium falcatum*** (L.f.) C.Presl
N NAT	***Cyrtomium fortunei*** J.Sm.
N NAT	***Dryopteris atrata*** (Wall. ex Kunze) Ching
N NAT	***Polystichum tagawanum*** Sa.Kurata
	Nephrolepidaceae Taxonomic references: Chen et al. (2017).
N NAT	***Nephrolepis cordifolia*** (L.) C.Presl
	Gymnosperms
	Ginkgoaceae
N CAS	***Ginkgo biloba*** L.
	Pinaceae
N NAT	***Abies cephalonica*** Loudon
N CAS	***Abies grandis*** (Douglas ex D.Don) Lindl.
N CAS	***Abies nordmanniana*** (Steven) Spach
N CAS	***Cedrus atlantica*** (Endl.) G.Manetti ex Carrière
N NAT	***Cedrus deodara*** (Roxb.) G.Don
N CAS	***Cedrus libani*** A.Rich. subsp. ***libani***
N CAS	***Larix kaempferi*** (Lamb.) Carrière
N CAS	***Larix*** ×***marschlinsii*** Coaz – Parentage: *L. decidua* Mill. × *L. kaempferi* (Lamb.) Carrière.
N CAS	***Picea orientalis*** (L.) Link
N NAT	***Pinus canariensis*** C.Sm. ex DC.
A NAT	***Pinus pinea*** L.
N NAT	***Pinus radiata*** D.Don
N NAT	***Pinus rigida*** Mill.
N NAT	***Pinus strobus*** L.
N CAS	***Pinus wallichiana*** A.B.Jacks.
N CAS	***Pseudotsuga menziesii*** (Mirb.) Franco
	Cupressaceae Taxonomic references: *Cupressus* L. s.str., and *Hesperocyparis* Bartel & R.A.Price. (Adams et al. 2009).
N CAS	***Calocedrus decurrens*** (Torr.) Florin
N CAS	***Chamaecyparis lawsoniana*** (A.Murray) Parl.
N NAT	***Cryptomeria japonica*** (L.f.) D.Don
A NAT	***Cupressus sempervirens*** L.
N NAT	***Hesperocyparis arizonica*** (Greene) Bartel
N NAT	***Hesperocyparis glabra*** (Sudw.) Bartel
N CAS	***Hesperocyparis macrocarpa*** (Hartw. ex Gordon) Bartel
N CAS	***Juniperus chinensis*** L.
N CAS	***Juniperus virginiana*** L.
N NAT	***Platycladus orientalis*** (L.) Franco
N NAT	***Sequoia sempervirens*** (D.Don) Endl.
N CAS	***Sequoiadendron giganteum*** (Lindl.) J.Buchholz
N NAT	***Taxodium distichum*** (L.) Rich.
N CAS	***Thuja occidentalis*** L.
N CAS	***Thujopsis dolabrata*** (Thunb. ex L.f.) Siebold & Zucc.

	Taxaceae
N CAS	***Cephalotaxus harringtonii*** (Knight ex J.Forbes) K.Koch
	Angiosperms
	Nymphaeaceae
N NAT FER	***Nymphaea* ×*marliacea*** Lat.-Marl. – Putative parentage: *N. alba* L. (Europe) × *N. mexicana* Zucc. (Neotropic Region) × *N. odorata* Aiton var. *rosea* Pursh (N-America). Note: Author citation according to Dana et al. (2017).
N INV	***Nymphaea mexicana*** Zucc.
	Saururaceae
N NAT	***Saururus cernuus*** L.
	Magnoliaceae
N CAS	***Liriodendron tulipifera*** L.
N CAS	***Magnolia grandiflora*** L.
N CAS	***Magnolia kobus*** DC.
	Annonaceae
N CAS	***Annona cherimola*** Mill.
	Calycanthaceae
N CAS	***Calycanthus floridus*** L.
N CAS	***Chimonanthus praecox*** (L.) Link
	Lauraceae
N NAT	***Cinnamomum glanduliferum*** (Wall.) Meisn. – Note: It is possible that the genus *Camphora* Fabr. deserves distinction from *Cinnamomum* Schaef. (Huang et al. 2016; Rohde et al. 2017).
N NC	***Persea indica*** (L.) Spreng.
	Acoraceae
A NAT	***Acorus calamus*** L.
	Araceae
A NAT	***Colocasia esculenta*** (L.) Schott
N NAT	***Landoltia punctata*** (G.Mey.) Les & D.J.Crawford
N NAT	***Lemna aequinoctialis*** Welw.
N INV	***Lemna minuta*** Kunth
N CAS	***Lemna valdiviana*** Phil.
N CAS	***Pinellia ternata*** (Thunb.) Ten. ex Breitenb.
N INV	***Pistia stratiotes*** L.
N NAT	***Wolffia columbiana*** H.Karst.
N INV	***Zantedeschia aethiopica*** (L.) Spreng.
	Alismataceae
N INV	***Sagittaria latifolia*** Willd.
N EX	***Sagittaria platyphylla*** (Engelm.) J.G.Sm.
	Hydrocharitaceae
	Taxonomic references: *Hydrilla* Rich. (Cook and Lüönd 1982); *Najas* L. (Triest 1988; Ito et al. 2017).
N CAS	***Blyxa japonica*** (Miq.) Maxim. ex Asch. & Gürke
N INV	***Egeria densa*** Planch.
N INV	***Elodea canadensis*** Michx.
N INV	***Elodea nuttallii*** (Planch.) H.St.John
N NAT	***Halophila stipulacea*** (Forssk.) Asch.
N CAS	***Hydrilla verticillata*** (L.f.) Royle
N INV	***Lagarosiphon major*** (Ridl.) Moss
N NAT	***Najas chinensis*** N.Z.Wang – Note: For the European distribution of this species, see Ito et al. (2017).
N NAT	***Najas gracillima*** (A.Braun ex Engelm.) Magnus
N NAT	***Najas graminea*** Delile
N NAT	***Ottelia alismoides*** (L.) Pers.
N NAT	***Vallisneria americana*** Michx.
	Colchicaceae
	Taxonomic references: *Colchicum* L. (Persson 2007).
N CAS	***Colchicum cilicicum*** (Boiss.) Dammer
	Liliaceae
N NC	***Fritillaria persica*** L.
A NAT	***Lilium candidum*** L.
N D	*Lilium chalcedonicum* L.
N NAT	***Tulipa agenensis*** Redouté
N NAT	***Tulipa clusiana*** Redouté
N CAS	***Tulipa gesneriana*** L.
T N NAT	***Tulipa raddii*** Reboul – Note: According to Christenhusz et al. (2013), this species would be a heterotypic synonym of *T. agenensis* Redouté, but we prefer to provisionally consider them as distinct species.
N CAS	***Tulipa saxatilis*** Sieber ex Spreng.

	Orchidaceae
N CAS	***Bletilla striata*** (Thunb.) Rchb.f.
	Iridaceae
	Taxonomic references: *Chamaeiris* Medik., *Eremiris* (Spach) Rodion., *Evansia* (Alef.) Salisb. ex Decne., *Iris* L. s.str., *Siphonostylys* Wern.Schulze, and *Tectiris* M.B.Crespo, Mart.-Azorín & Mavrodiev (Peruzzi et al. 2014; Crespo et al. 2015).
N NAT	***Chamaeiris orientalis*** (Mill.) M.B.Crespo
N CAS	***Chamaeiris spuria*** (L.) Medik.
N INV	***Chasmanthe aethiopica*** (L.) N.E.Br. – Note: Some record of this species could refer to *C. floribunda* (Salisb.) N.E.Br. (Grandis 2016).
N NAT	***Chasmanthe bicolor*** (Gasp.) N.E.Br.
N CAS	***Chasmanthe floribunda*** (Salisb.) N.E.Br.
N NAT FER	***Crocosmia crocosmiiflora*** (Lemoine ex Anonym.) N.E.Br. – Parentage: *C. aurea* (Pappe ex Hook.) Planch. × *C. pottsii* (Baker) N.E.Br. (S-Africa).
N CAS CLT	***Crocus* ×*luteus*** Lam. – Parentage: *C. angustifolius* Weston × *C. flavus* Weston.
A CAS CLT	***Crocus sativus*** L. – Parentage: *C. cartwrightianus* Herb., with additional involvement of *C. pallasii* Goldb. subsp. *pallasii* or other similar taxa (Asia Minor).
N NC	***Eremiris lactea*** (Pall.) Rodion.
N NAT	***Evansia japonica*** (Thunb.) Klatt
N NAT	***Ferraria crispa*** Burm. subsp. ***crispa***
N NAT	***Freesia alba*** (G.L.Mey.) Gumbl. – Note: Including the horticultural hybrids with *F. corymbosa* N.E.Br. and *F. leichtlinii* Klatt, erroneously attributed to *F. refracta* (Jacq.) Klatt (Goldblatt and Manning 2008).
N NAT	***Iris albicans*** Lange
A NAT FER	***Iris germanica*** L. – Parentage: *I. pallida* Lam. × *I. variegata* L. (eastern Mediterranean Region).
A NAT	***Iris pallida*** Lam.
N CAS	***Iris variegata*** L.
N CAS	***Melasphaerula ramosa*** (L.) Klatt
N D	*Romulea rosea* (L.) Eckl.
N CAS	***Siphonostylis cretensis*** (Janka) Wern.Schulze
N NAT	***Siphonostylis unguicularis*** (Poir.) Wern.Schulze
N NAT	***Sisyrinchium montanum*** Greene – Note: For the taxonomy of this species, see Banfi and Galasso (2010).
N CAS	***Sisyrinchium rosulatum*** E.P.Bicknell
N CAS	***Sparaxis bulbifera*** (L.) Ker Gawl.
N CAS	***Sparaxis tricolor*** (Schneev.) Ker Gawl.
N NAT	***Tectiris tectorum*** (Maxim.) M.B.Crespo, Mart.-Azorín & Mavrodiev
	Asphodelaceae
	Taxonomic references: *Aloë* L. s.str. and *Aloiampelos* Klopper & Gideon F.Sm. (Grace et al. 2013).
N NAT	***Aloë arborescens*** Mill.
N NAT FER	***Aloë* ×*caesia*** Salm-Dyck – Note: Parentage: *A. arborescens* Mill. × *A. ferox* Mill.
N CAS	***Aloë humilis*** (L.) Mill.
N CAS	***Aloë maculata*** All.
N NAT	***Aloë perfoliata*** L.
N NAT	***Aloë reynoldsii*** Letty
N CAS	***Aloë striata*** Haw. subsp. ***striata***
N CAS	***Aloë striatula*** Haw.
A NAT	***Aloë vera*** (L.) Burm.f.
N CAS	***Aloiampelos ciliaris*** (Haw.) Klopper & Gideon F.Sm.
N CAS	***Bulbine asphodeloides*** (L.) Spreng.
N CAS	***Gasteria carinata*** (Mill.) Duval
N NAT	***Hemerocallis fulva*** (L.) L.
N CAS	***Kniphofia uvaria*** (L.) Oken
N CAS	***Phormium tenax*** J.R.Forst. & G.Forst.
	Amaryllidaceae
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 *A. vavilovii* Popov & Vved. (Transcaspian Region). The name *A. ascalonicum* L., traditionally misapplied to the shallot (*A. cepa* L. Aggregatum Group), is the priority name for *A. hierocontinum* Boiss., an eastern Mediterranean species.
A CAS CLT	***Allium fistulosum*** L. – Note: Directly domesticated from *A. altaicum* Pall. (Transcaspian Region).
N CAS	***Allium giganteum*** Regel
N D	*Allium moly* L.
A CAS CLT	***Allium porrum*** L. – Note: Domesticated from within *A. ampeloprasum* complex (Egypt/Mesopotamia).
A CAS CLT	***Allium sativum*** L. – Note: Directly domesticated from *A. longicuspis* Regel (Transcaspian Region).
A NAT	***Allium scorodoprasum*** L.
N NAT	***Allium tuberosum*** Rottler ex Spreng.
N NAT	***Amaryllis belladonna*** L.
N CAS	***Galanthus elwesii*** Hook.f. subsp. ***elwesii***
T N CAS	***Galanthus woronowii*** Losinsk. – Note: This species is doubtfully distinct from G. *ikariae* Baker.
N NAT	***Ipheion uniflorum*** (Lindl.) Raf.
N CAS	***Narcissus jonquilla*** L. subsp. ***jonquilla***
N CAS	***Narcissus* ×*odorus*** L. – Parentage: *N. jonquilla* L. × *N. pseudonarcissus* L. subsp. *pseudonarcissus*.
A NAT	***Narcissus papyraceus*** Ker Gawl.
N CAS CLT	***Narcissus* 'Tête-a-tête'** – Parentage: (*N. cyclamineus* DC. × *N. tazetta* L. subp. *tazetta*) × *N. tazetta* subsp. *tazetta*.
N CAS	***Nerine bowdenii*** W.Watson subsp. ***bowdenii***
N NAT	***Nothoscordum borbonicum*** Kunth
N NAT	***Nothoscordum gracile*** (Aiton) Stearn – Note: In some localities, this species could have been confused with *N. borbonicum* Kunth (see also Ravenna 1991).
N CAS	***Tulbaghia violacea*** Harv.
N CAS	***Zephyranthes candida*** (Lindl.) Herb.

N CAS	***Zephyranthes carinata*** Herb. – Note: This species may deserve separation into a distinct genus (Meerow et al. 2000).
	Asparagaceae
	Taxonomic references: *Agave* L. (Hochstätter 2015); *Hyacinthoides* Heist. ex Fabr. (Geerinck 1997).
N INV FER	***Agave americana*** L. subsp. ***americana*** – Note: Feral of *A. americana* L. subsp. *americana*, in turn directly domesticated from *A. americana* L. subsp. *protamericana* Gentry (Mexico).
N CAS	***Agave angustifolia*** Haw. subsp. ***angustifolia***
N NAT	***Agave attenuata*** Salm-Dyck subsp. ***attenuata***
N CAS	***Agave beaulueriana*** Jacobi
N INV	***Agave fourcroydes*** Lem.
N INV	***Agave ingens*** A.Berger
N INV	***Agave salmiana*** Otto ex Salm-Dyck subsp. ***ferox*** (K.Koch) Hochstätter
N NAT FER	***Agave sisalana*** Perrine ex Engelm. – Note: Feral of the same species, *A. sisalana* Perrine ex Engelm. Putative parentage: *A. grijalvensis* B.Ullrich × *A. vivipara* L.
N NC	***Albuca canadensis*** (L.) F.M.Leight.
N CAS	***Asparagus aethiopicus*** L. – Note: Some authors segregate the genera *Elide* Medik. and *Protasparagus* Oberm. from *Asparagus* L., but they are early branching grades rather than clades (Fukuda et al. 2005).
N NAT	***Asparagus asparagoides*** (L.) Druce
N CAS	***Asparagus falcatus*** L.
N NAT	***Asparagus setaceus*** (Kunth) Jessop
N CAS	***Aspidistra elatior*** Blume
N NAT	***Chlorophytum comosum*** (Thunb.) Jacques
N CAS	***Cordyline australis*** (G.Forst.) Endl.
N CAS	***Danaë racemosa*** (L.) Moench
N NAT	***Dracaena draco*** (L.) L. subsp. ***draco***
N NAT	***Honorius boucheanus*** (Kunth) Holub
N NAT	***Honorius nutans*** (L.) Gray
N CAS	***Hosta plantaginea*** (Lam.) Asch.
N NAT	***Hosta ventricosa*** Stearn
N CAS	***Hosta venusta*** F.Maek.
N NAT	***Hyacinthoides hispanica*** (Mill.) Rothm.
N CAS	***Hyacinthoides ×massartiana*** Geerinck – Parentage: *H. hispanica* (Mill.) Rothm. × *H. non-scripta* (L.) Chouard ex Rothm.
N NAT	***Hyacinthoides non-scripta*** (L.) Chouard ex Rothm.
A CAS	***Hyacinthus orientalis*** L.
N NAT	***Liriope spicata*** (Thunb.) Lour.
N CAS	***Muscari armeniacum*** Leichtlin ex Baker
N NC	***Muscari macrocarpum*** Sweet
N D	*Muscari racemosum* Mill.
N NAT	***Nectaroscilla hyacinthoides*** (L.) Parl.
N CAS	***Ophiopogon japonicus*** (L.f.) Ker Gawl.
N CAS	***Othocallis amoena*** (L.) Trávn.
N CAS	***Othocallis siberica*** (Haw.) Speta
N CAS	***Reineckea carnea*** (Andrews) Kunth
N CAS	***Ruscus ×microglossus*** Bertol. – Parentage: *R. hypoglossum* L. × *R. hypophyllum* L.
N CAS	***Scilla luciliae*** (Boiss.) Speta
N NAT	***Stellarioides longibracteata*** (Jacq.) Speta
N CAS	***Triteleia laxa*** Benth.
N NAT	***Yucca aloifolia*** L.
N CAS	***Yucca filamentosa*** L.
N CAS	***Yucca gigantea*** Lem.
N INV	***Yucca gloriosa*** L.
T N NAT	***Yucca recurvifolia*** Salisb. – Note: This species is doubtfully distinct from *Y. gloriosa* L.
	Arecaceae
N CAS	***Brahea armata*** S.Watson
N CAS	***Chamaedorea elatior*** Mart.
N NAT	***Phoenix canariensis*** H.Wildpret – Note: *Phoenix canariensis* H.Wildpret is a conserved name against *P. cycadifolia* Regel.
A CAS CLT	***Phoenix dactylifera*** L. – Note: Directly domesticated from the same species, *P. dactylifera* L., along two domestication agrolineages: western and eastern chlorotype with a W-E gradient from Mauritania to Oman (Pintaud et al. 2013).
N CAS	***Raphia farinifera*** (Gaertn.) Hyl.
N CAS	***Syagrus romanzoffiana*** (Cham.) Glassman
N INV FER	***Trachycarpus fortunei*** (Hook.) H.Wendl. – Note: Feral and culton of the same species, *T. fortunei* (Hook.) H.Wendl. (China).
N NAT	***Washingtonia filifera*** (Linden ex André) H.Wendl. ex de Bary
N NAT	***Washingtonia robusta*** H.Wendl.
	Commelinaceae
N CAS	***Commelina benghalensis*** L.
N INV	***Commelina communis*** L.
N CAS	***Gibasis pellucida*** (M.Martens & Galeotti) D.R.Hunt
N INV	***Murdannia keisak*** (Hassk.) Hand.-Mazz.
N CAS	***Tradescantia cerinthoides*** Kunth
N INV	***Tradescantia fluminensis*** Vell. – Note: Some authors treat *T. albiflora* Kunth (recorded for LIG and TOS) as an independent taxon.
N CAS	***Tradescantia pallida*** (Rose) D.R.Hunt
N CAS	***Tradescantia sillamontana*** Matuda
N CAS	***Tradescantia virginiana*** L.
N DD	***Tradescantia zebrina*** Heynh. ex Bosse – Note: This species was generically reported for Italy, without distribution, by Pignatti (1982, 2017).

	Pontederiaceae
	Taxonomic references: *Heteranthera* Ruiz & Pav. (Soldano 1992).
N INV	***Eichhornia crassipes*** (Mart.) Solms
N NAT	***Heteranthera limosa*** (Sw.) Willd.
N INV	***Heteranthera reniformis*** Ruiz & Pav.
N NAT	***Heteranthera rotundifolia*** (Kunth) Griseb.
N CAS	***Monochoria korsakowii*** Regel & Maack
N NAT	***Pontederia cordata*** L.
	Haemodoraceae
N CAS	***Anigozanthos flavidus*** Redouté
	Musaceae
N NAT	***Musa basjoo*** Siebold & Zucc. ex Iinuma
	Cannaceae
N CAS	***Canna glauca*** L.
N NAT	***Canna indica*** L. – Note: This species is often recorded in place of *C. glauca* L. (glaucous plant, with yellow and larger flowers). The hybrids between the two species (*C. ×generalis* L.H.Bailey) are sterile and not yet recorded in the wild, but can be found in cultivation.
	Eriocaulaceae
N CAS	***Eriocaulon cinereum*** R.Br.
	Juncaceae
N NAT	***Juncus dichotomus*** Elliott
N CAS	***Juncus ensifolius*** Wikstr.
N NAT	***Juncus marginatus*** Rostk.
N INV	***Juncus tenuis*** Willd.
	Cyperaceae
	Taxonomic references: *Cyperus* L. (Verloove 2014b); *Eleocharis* R.Br. (Verloove 2010); *Schoenoplectiella* Lye (Lye 2003; Shiels et al. 2014; Glon et al. 2017); *Scirpus atrovirens* group (Verloove and Lambinon 2011; Verloove 2014a).
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 INV	***Cyperus glomeratus*** L.
N CAS	***Cyperus hamulosus*** M.Bieb.
N NAT	***Cyperus lupulinus*** (Spreng.) Marcks
N INV	***Cyperus microiria*** Steud.
N NAT	***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 – Note: This species is doubtfully native to Europe (Walters 1980).
N INV	***Eleocharis obtusa*** (Willd.) Schult.
N NAT	***Eleocharis olivacea*** Torr. – Note: This name has been subsumed under *E. flavescens* (Poir.) Urb. (Jiménez Mejías and Luceño 2007) or treated as a variety of the latter species (Smith et al. 2002). We consider this unit at species rank, as an alien. On the contrary, we regard *E. caduca* (Delile) Schult. as a native plant (Bartolucci et al. 2018). Verloove and Soldano (2011) reported another taxon, namely *E. flavescens*, as a weed in the hethlands of PIE. However, in a sample of these hethland plants, we detected the typical characters of *E. olivacea* (Smith et al. 2002), with the achenes just tending to be slightly darker. However, the global taxonomic treatment of this group is confusing: Old and New World plants assigned to *E. flavescens* or *E. caduca* seem poorly distinct and the type materials of *E. caduca* and *E. flavescens* are virtually undistinguishable. Also the putative geographical separation of these two taxa (Old vs. New World) seems 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
N D	*Scirpus atrovirens* Willd. subsp. *atrovirens*
N NAT	***Scirpus atrovirens*** Willd. subsp. ***georgianus*** (R.M.Harper) Verloove & Lambinon
N NAT	***Scirpus atrovirens*** Willd. subsp. ***hattorianus*** (Makino) Verloove & Lambinon
	Poaceae
	Taxonomic references: *Ceratochloa* DC. & P.Beauv. (Verloove 2012); *Diplachne* P.Beauv. (Snow et al. 2018); genera according to the phylogenetic classification by Soreng et al. (2017).
N NAT	***Agropyron desertorum*** (Fisch. ex Link) Schult.
N CAS	***Amelichloa caudata*** (Trin.) Arriaga & Barkworth
N NAT	***Aristida longispica*** Poir.

A INV	***Arundo donax*** L.
A NAT FER	***Avena fatua*** L. subsp. ***fatua*** – Note: Feral of *A. sativa* L. s.l. (Europe).
A NAT FER	***Avena fatua*** L. subsp. ***meridionalis*** Malzev – Note: Feral of *A. sativa* L. s.l. (Europe).
A CAS CLT	***Avena sativa*** L. subsp. ***byzantina*** (K.Koch) Romero Zarco – Note: Directly domesticated from *A. sterilis* L. subsp. *sterilis*, 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 *A. sativa* subsp. *byzantina*.
A D CLT	*Avena sativa* L. subsp. *nuda* (L.) Gillet & Magne – Note: Domestication as in *A. sativa* subsp. *byzantina*.
A CAS CLT	***Avena sativa*** L. subsp. ***praegravis*** (Malzev) Mordv. – Note: Domestication as in *A. sativa* subsp. *byzantina*.
A CAS CLT	***Avena sativa*** L. subsp. ***sativa*** – Note: Domestication as in *A. sativa* subsp. *byzantina*.
A NAT	***Avena sterilis*** L. subsp. ***atherantha*** (C.Presl) H.Scholz
A INV	***Avena sterilis*** L. subsp. ***ludoviciana*** (Durieu) Gillet & Magne
N CAS	***Avena sterilis*** L. nothosubsp. ***malzevii*** H.Scholz – Parentage: *A. fatua* L. subsp. *fatua* × *A. sterilis* L. subsp. *ludoviciana* (Durieu) Gillet & Magne. Note: This nothotaxon is designated by a name subordinate to a species inappropriate to its hybrid formula (Art. H.5 of ICN; McNeill et al. 2012).
A DD CLT	***Avena sterilis*** L. subsp. ***pseudosativa*** (Thell.) Malzev – Note: Directly domesticated from *A. sterilis* L. subsp. *ludoviciana* (Durieu) Gillet & Magne (Europe, Vavilov mimicry).
A NAT	***Avena sterilis*** L. subsp. ***sterilis***
N CAS CLT	***Avena strigosa*** Schreb. – Note: Directly domesticated from *A. atlantica* B.R.Baum & Fedak (Morocco). *Avena brevis* Roth is interpreted as a cultivar group derived from the selection of the culton *A. strigosa*, known only in cultivation or as casual alien (SIC).
N CAS	***Bambusa bambos*** (L.) Voss
N DD	***Bambusa multiplex*** (Lour.) Raeusch. ex Schult. & Schult.f.
N NAT	***Bambusa vulgaris*** Schrad. ex J.C.Wendl.
N NAT	***Bothriochloa laguroides*** (DC.) Herter subsp. ***laguroides***
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 lepidus*** Holmb.
N INV	***Cenchrus incertus*** M.A.Curtis
N INV	***Cenchrus longisetus*** M.C.Johnst.
N INV	***Cenchrus longispinus*** (Hack.) Fernald
N CAS	***Cenchrus purpurascens*** Thumb.
N CAS	***Cenchrus purpureus*** (Schumach.) Morrone
N INV	***Cenchrus setaceus*** (Forssk.) Morrone
N NAT	***Ceratochloa carinata*** (Hook. & Arn.) Tutin – Note: Several records from the Alps may refer to *C. sitchensis* (Trin.) Cope & Ryves.
N NAT	***Ceratochloa cathartica*** (Vahl) Herter
N NAT	***Ceratochloa sitchensis*** (Trin.) Cope & Ryves
N CAS	***Chloris gayana*** Kunth
N NC	***Chloris pycnothrix*** Trin.
N CAS	***Chloris truncata*** R.Br.
N CAS	***Coix lacryma-jobi*** L.
N INV	***Cortaderia selloana*** (Schult. & Schult.f.) Asch. & Graebn.
N NAT	***Dactyloctenium aegyptium*** (L.) Willd.
N NC	***Desmazeria philistaea*** (Boiss.) H.Scholz subsp. ***philistaea***
T N NAT	***Dichanthelium acuminatum*** (Sw.) Gould & C.A.Clark subsp. ***implicatum*** (Scribn.) Freckmann & Lelong – Note: This taxon is doubtfully distinct from *D. acuminatum* (Sw.) Gould & C.A.Clark subsp. *acuminatum*.
N NAT	***Dichanthelium clandestinum*** (L.) Gould
N NAT	***Dichanthium annulatum*** (Forssk.) Stapf
N NAT	***Digitaria ciliaris*** (Retz.) Koeler
T N NAT	***Digitaria violascens*** Link – Note: This species is doubtfully distinct from *D. ischaemum* (Schreb. ex Schweigg.) Schreb. ex Muhl. subsp. *ischaemum*.
N CAS	***Dinebra retroflexa*** (Vahl) Panz.
N NAT	***Diplachne fusca*** (L.) P.Beauv. ex Roem. & Schult. subsp. ***fascicularis*** (Lam.) P.M.Peterson & N.Snow
N NAT	***Diplachne fusca*** (L.) P.Beauv. ex Roem. & Schult. subsp. ***fusca***
N NAT	***Diplachne fusca*** (L.) P.Beauv. ex Roem. & Schult. subsp. ***uninervia*** (J.Presl) P.M.Peterson & N.Snow
N NAT	***Echinochloa colona*** (L.) Link
N NAT	***Echinochloa crus-galli*** (L.) P.Beauv. subsp. ***spiralis*** (Vasinger) Tzvelev
N CAS CLT	***Echinochloa frumentacea*** Link – Note: Directly domesticated from *E. colona* (L.) Link (India).
T N NAT	***Echinochloa hispidula*** (Retz.) Nees – Note: This species is doubtfully distinct from *E. crus-galli* (L.) P.Beauv. subsp. *crus-galli*.
N NAT	***Echinochloa oryzicola*** (Vasinger) Vasinger
T N NAT	***Echinochloa oryzoides*** (Ard.) Fritsch – Note: This species is doubtfully distinct from *E. crus-galli* (L.) P.Beauv. subsp. *crus-galli*.
N NAT	***Ehrharta erecta*** Lam.
N NAT	***Eleusine coracana*** (L.) Asch. & Graebn. subsp. ***africana*** (Kenn.-O'Byrne) Hilu & de Wet
N CAS CLT	***Eleusine coracana*** (L.) Asch. & Graebn. subsp. ***coracana*** – Note: Directly domesticated from *E. coracana* (L.) Gaertn. subsp. *africana* (Kenn.-O'Byrne) Hilu & de Wet (W-Africa).
N INV	***Eleusine indica*** (L.) Gaertn.
N NAT	***Eleusine tristachya*** (Lam.) Lam.
N NAT	***Elymus obtusiflorus*** (DC.) Conert subsp. ***obtusiflorus***
N NAT	***Eragrostis curvula*** (Schrad.) Nees
N NAT	***Eragrostis frankii*** C.A.Mey. ex Steud.
N CAS	***Eragrostis lugens*** Nees
N NAT	***Eragrostis mexicana*** (Hornem.) Link subsp. ***virescens*** (J.Presl) S.D.Koch & Sánchez Vega
N INV	***Eragrostis pectinacea*** (Michx.) Nees
N CAS	***Festuca valesiaca*** Schleich. ex Gaudin subsp. ***parviflora*** (Hack.) R.Tracey
N NAT	***Glyceria striata*** (Lam.) Hitchc.
N NC	***Hackelochloa granularis*** (L.) Kuntze
N CAS	×***Haynaldoticum sardoum*** Meletti & Onnis nothosubsp. ***sardoum*** – Putative prentage: *Dasypyrum villosum* (L.) P.Candargy × *Triticum turgidum* L. subsp. *durum* (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 (*Dasypyrum* (Coss. & Durieu) T.Durand, and *Triticum* L.) (Art. H.8.1. of ICN; McNeill et al. 2012).

N NAT	***Hordeum jubatum*** L.
A CAS CLT	***Hordeum vulgare*** L. subsp. ***vulgare*** – Note: Directly domesticated from *H. vulgare* L. subsp. *spontaneum* (K. Koch) Asch. & Graebn. (SE-Turkey).
A NAT	***Lolium remotum*** Schrank
A NAT	***Lolium temulentum*** L.
N CAS?	***Melica altissima*** L.
N CAS	***Melinis repens*** (Willd.) Zizka subsp. ***repens***
N CAS	***Miscanthus floridulus*** (Labill.) Warb. ex K.Schum. & Lauterb.
N NAT	***Miscanthus sinensis*** Andersson
N NAT	***Muhlenbergia frondosa*** (Poir.) Fernald
N INV	***Muhlenbergia schreberi*** J.F.Gmel.
N CAS	***Nassella formicarum*** (Delile) Barkworth
N CAS	***Nassella hyalina*** (Nees) Barkworth
N NAT	***Nassella neesiana*** (Trin. & Rupr.) Barkworth
N CAS	***Nassella tenuissima*** (Trin.) Barkworth
N NAT	***Nassella trichotoma*** (Nees) Hack. ex Arechav.
A INV FER	***Oryza sativa*** L. subsp. ***sativa*** – Note: Feral of the same taxon, *O. sativa* L. subsp. *sativa*, in turn directly domesticated from *O. sativa* L. subsp. *rufipogon* (Griff.) de Wet (SE-Asia).
N INV	***Panicum barbipulvinatum*** Nash
N INV	***Panicum capillare*** L.
N INV	***Panicum dichotomiflorum*** Michx.
N D	*Panicum hillmanii* Chase
A NAT FER	***Panicum miliaceum*** L. subsp. ***agricola*** H.Scholz & Mikoláš – Note: Feral of *P. miliaceum* L. s.l. (China and Mongolia, northern steppes).
A CAS CLT	***Panicum miliaceum*** L. subsp. ***miliaceum*** – Note: Directly domesticated from *P. miliaceum* L. s.l. (China and Mongolia, northern steppes).
A CAS FER	***Panicum miliaceum*** L. subsp. ***ruderale*** (Kitag.) Tzvelev – Note: Feral of *P. miliaceum* L. s.l. (China and Mongolia, northern steppes).
N INV	***Panicum philadelphicum*** Bernh. ex Trin.
N CAS	***Panicum virgatum*** L.
N CAS	***Paspalum dasypleurum*** Kunze ex É.Desv.
N INV	***Paspalum dilatatum*** Poir.
N INV	***Paspalum distichum*** L.
N CAS	***Paspalum exaltatum*** J.Presl
N CAS	***Paspalum notatum*** Flüggé
N CAS	***Paspalum paucispicatum*** Vasey
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 CAS	***Phyllostachys edulis*** (Carrière) J.Houz.
N CAS	***Phyllostachys flexuosa*** Rivière & C.Rivière
N NAT	***Phyllostachys nigra*** (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 CAS	***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 *P. holciforme* (M.Bieb.) Roem. & Schult. subsp. *holciforme* var. *holciforme*, in turn directly domesticated from *P. holciforme* (M.Bieb.) Roem. & Schult. subsp. *holciforme* var. *blancheanum* (É.Desv. ex Boiss.) Boiss. (archaeological site Ohalo II, Lake Tiberias, Israel, dated to 23,000 years ago).
N DD	***Pleioblastus chino*** (Franch. & Sav.) Makino – Note: This species is generically reported for Italy, without distribution, by Pignatti (1982, 2017). The record for LOM by Banfi and Galasso (2010) is erroneous, and to be referred to *P. pygmaeus* (Miq.) Nakai.
N CAS	***Pleioblastus pygmaeus*** (Miq.) Nakai
N NAT	***Pleioblastus viridistriatus*** (Regel) Makino
N D	*Polypogon fugax* 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 *S. robustum* E.W.Brandes & Jeswiet ex Grassl (New Guinea).
A CAS CLT	***Secale cereale*** L. subsp. ***cereale*** – Note: Directly domesticated in eastern Europe from *S. cereale* L. subsp. *ancestrale* Zhuk. (SE-Turkey), a former weed of cereal fields (Vavilov mimicry).
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 *S. italica* (L.) P.Beauv. subsp. *viridis* (L.) Thell. (China). Experimental fields of *S. italica* (L.) P.Beauv. subsp. *moharia* (Alef.) R.A.W.Herrm. (= *S. germanica* (Mill.) P.Beauv.) can be found in LOM.
N NAT FER	***Setaria italica*** (L.) P.Beauv. subsp. ***pycnocoma*** (Steud.) de Wet – Note: Feral of *S. italica* (L.) P.Beauv. subsp. *italica*, in turn directly domesticated from *S. italica* (L.) P.Beauv. subsp. *viridis* (L.) Thell.
N NAT	***Setaria parviflora*** (Poir.) Kerguélen
A CAS CLT	***Sorghum bicolor*** (L.) Moench subsp. ***bicolor*** – Note: Directly domesticated from *S. bicolor* (L.) Moench subsp. *arundinaceum* (Desv.) de Wet & J.R.Harlan ex Davidse (W-Africa).
A INV FER	***Sorghum halepense*** (L.) Pers. – Parentage: *S. bicolor* (L.) Moench subsp. *bicolor* × *S. propinquum* (Kunth) Hitchc. (China).
N NC	***Sporobolus alterniflorus*** (Loisel.) P.M.Peterson & Saarela
N INV	***Sporobolus anglicus*** (C.E.Hubb.) P.M.Peterson & Saarela – Parentage: Allohexaploid of *S. alterniflorus* (Loisel.) P.M.Peterson & Saarela × *S. maritimus* (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 NAT	***Sporobolus pumilus*** (Roth) P.M.Peterson & Saarela
N NAT	***Sporobolus*** ×***townsendii*** (H.Groves & J.Groves) P.M.Peterson & Saarela – Parentage: *S. alterniflorus* (Loisel.) P.M.Peterson & Saarela × *S. maritimus* (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 CAS CLT	×***Triticosecale*** sp. – Note: The record of ×*Triticosecale* Wittm. ex A.Camus from LOM (Ardenghi and Polani 2016) possibly refers to ×*T. neoblaringhemii* A.Camus (parentage: *Secale cereale* L. subsp. *cereale* × *Triticum turgidum* L. subsp. *durum* (Desf.) Husn.).
A CAS CLT	***Triticum aestivum*** L. subsp. ***aestivum*** – Parentage: *T. tauschii* (Coss.) Schmalh. × *T. turgidum* L. subsp. *dicoccon* (Schrank) Thell. (W-Fertile Crescent).
A DD CLT	***Triticum aestivum*** L. subsp. ***compactum*** (Host) Mac Key – Parentage: As in *T. aestivum* subsp. *aestivum*.
A DD CLT	***Triticum aestivum*** L. subsp. ***spelta*** (L.) Thell. – Parentage: As in *T. aestivum* subsp. *aestivum*.
N CAS	***Triticum caudatum*** (L.) Raspail
A NAT	***Triticum cylindricum*** (Host) Ces., Pass. & Gibelli
A CAS CLT	***Triticum monococcum*** L. subsp. ***monococcum*** – Note: Directly domesticated from *T. monococcum* L. subsp. *aegilopoides* (Link) Thell. (SE-Turkey, Karaca Dağ mountains).
N NC	***Triticum peregrinum*** Hack.
A CAS	***Triticum*** ×***requienii*** Ces., Pass. & Gibelli nothosubsp. ***requienii*** – Parentage: *T. aestivum* L. subsp. *aestivum* × *T. vagans* (Jord. & Fourr.) Greuter.
N CAS	***Triticum speltoides*** (Tausch) Gren. subsp. ***ligusticum*** (Savign.) Chennav.
A CAS CLT	***Triticum turgidum*** L. subsp. ***dicoccon*** (Schrank) Thell. – Note: Directly domesticated from *T. turgidum* L. subsp. *dicoccoides* (Körn.) Thell. [*T. speltoides* (Tausch) Gren. × *T. urartu* Tumanian ex Gandiljan] (Fertile Crescent).
A CAS CLT	***Triticum turgidum*** L. subsp. ***durum*** (Desf.) Husn. – Note: Domestication as in *T. turgidum* subsp. *dicoccon*.
N CAS CLT	***Triticum turgidum*** L. subsp. ***turanicum*** (Jakubz.) Á.Löve & D.Löve – Note: Domestication as in *T. turgidum* subsp. *dicoccon*. Traded under the name of "Kamut" (*T. turgidum* subsp. *turanicum* 'QK-77 Montana').
A CAS CLT	***Triticum turgidum*** L. subsp. ***turgidum*** – Note: Domestication as in *T. turgidum* subsp. *dicoccon*.
N CAS CLT	***Zea mays*** L. subsp. ***mays*** – Parentage: *Z. mays* L. subsp. *parviglumis* Iltis & Doebley (Mexico: Michoacán, Balsas River valley) → *Z. mays* L. subsp. *mexicana* (Schrad.) Iltis (Mexico: Zacatecas, volcanic plateau).
N CAS	***Zoysia japonica*** Steud.
N CAS	***Zoysia matrella*** (L.) Merr.
	Papaveraceae
N CAS	***Eschscholzia californica*** Cham. subsp. ***californica***
N NAT	***Fumaria kralikii*** Jord.
N D	*Fumaria rostellata* Knaf
N CAS	***Hypecoum pendulum*** L.
N CAS	***Lamprocapnos spectabilis*** (L.) Fukuhara
N CAS	***Meconopsis cambrica*** (L.) Vig.
N NAT	***Papaver atlanticum*** (Ball) Cosson subsp. ***atlanticum***
N CAS	***Papaver croceum*** Lam.
A NAT	***Papaver lecoqii*** Lamotte
N CAS	***Papaver nudicaule*** L.
A NAT	***Papaver somniferum*** L.
N CAS	***Roemeria hybrida*** (L.) DC. subsp. ***hybrida***
	Lardizabalaceae
N NAT	***Akebia quinata*** (Thunm. ex Houtt.) Decne.
	Berberidaceae
	Taxonomic references: *Berberis* L. and *Mahonia* Nutt. (Yu and Chung 2017).
N CAS	***Berberis julianae*** C.K.Schneid.
N CAS	***Berberis thunbergii*** DC.
N NAT	***Mahonia aquifolium*** (Pursh) Nutt.
N NAT	***Mahonia bealei*** (Fortune) Carrière
N CAS	***Nandina domestica*** Thunb.
	Ranunculaceae
N CAS CLT	***Aconitum*** ×***cammarum*** L. – Parentage: *A. napellus* L. group × *A. variegatum* L. s.l.
N NAT	***Anemone blanda*** Schott & Kotschy
N NAT	***Anemone pavonina*** Lam.
N CAS CLT	***Aquilegia*** cv. – Parentage: Selections of hybrids between *A. canadensis* L. (eastern N-America), *A. chrysantha* A.Gray (southwestern N-America), *A. coerulea* E.James (western N-America) e *A. saximontana* Rydb. (Colorado).
N CAS	***Clematis armandii*** Franch.
N NAT	***Clematis tangutica*** (Maxim.) Korsh.
N NAT	***Delphinium orientale*** J.Gay
N D	*Garidella nigellastrum* L.
N CAS	***Helleborus orientalis*** Lam.
A CAS	***Nigella sativa*** L.
N CAS	***Ranunculus asiaticus*** L.
	Nelumbonaceae
N INV	***Nelumbo nucifera*** Gaertn.
	Platanaceae
N NAT FER	***Platanus hispanica*** Mill. ex Münchh. – Parentage: *P. occidentalis* L. × *P. orientalis* L. The hybrid origin of this species is now definitely proven (Grimm and Denk 2008).
A NAT	***Platanus orientalis*** L. – Note: According to Rosati et al. (2015), this species is an archaeophyte.

	Proteaeceae
N CAS	***Grevillea robusta*** A.Cunn. ex R.Br.
	Buxaceae
N CAS	***Pachysandra terminalis*** Siebold & Zucc.
	Paeoniaceae
N NC	***Paeonia suffruticosa*** Andrews subsp. ***suffruticosa***
	Altingiaceae
N CAS	***Liquidambar orientalis*** Mill.
N CAS	***Liquidambar styraciflua*** L.
	Grossulariaceae
N CAS	***Ribes aureum*** Pursh
N CAS	***Ribes nigrum*** L.
N CAS	***Ribes spicatum*** E.Robson subsp. ***spicatum***
	Saxifragaceae
N CAS	***Astilbe japonica*** (C.Morren & Decne.) A.Gray
N CAS	***Bergenia crassifolia*** (L.) Fritsch
N CAS	***Heuchera sanguinea*** Engelm.
N D	*Saxifraga* ×*geum* L. nothosubsp. *geum* – Parentage: *S. hirsuta* L. subsp. *hirsuta* × *S. umbrosa* L. Note: This nothospecies was generically reported for northern Italy, without distribution, by Pignatti (2017). This record could refer to *S. hirsuta* L. subsp. *hirsuta*.
N DD	***Saxifraga hirsuta*** L. subsp. ***hirsuta*** – Note: This species was generically reported for northern Italy, without distribution, by Pignatti (2017).
N CAS	***Saxifraga stolonifera*** Curtis
N NAT	***Saxifraga umbrosa*** L.
	Crassulaceae
A NAT	***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: *A. simsii* (Sweet) Stearn × *A. spathulatum* (Hornem.) 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 NAT	***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	***Hylotelephium spectabile*** (Boreau) H.Ohba
N CAS	***Hylotelephium telephium*** (L.) H.Ohba subsp. ***telephium***
N NAT	***Kalanchoë daigremontiana*** Raym.-Hamet & H.Perrier – Note: This species is often confused with the hybrid *K.* ×*houghtonii*.
N CAS	***Kalanchoë delagoënsis*** Eckl. & Zeyh.
N NAT FER	***Kalanchoë*** ×***houghtonii*** D.B.Ward – Parentage: *K. daigremontiana* Raym.-Hamet & H.Perrier × *K. delagoensis* Eckl. & Zeyh.
N D	*Kalanchoë laxiflora* Baker
N NAT	***Phedimus spurius*** (M.Bieb.) 't Hart
N CAS	***Sedum multiceps*** Coss. & Durieu
N CAS	***Sedum nussbaumerianum*** Bitter
N NAT	***Sedum palmeri*** S.Watson
N CAS	***Sedum praealtum*** A.DC.
N NAT	***Sedum sarmentosum*** Bunge
	Haloragaceae
N INV	***Myriophyllum aquaticum*** (Vell.) Verdc.
	Vitaceae Taxonomic references: *Vitis* L. (Ardenghi et al. 2014, 2015a, 2015c; Vázquez Pardo and García Alonso 2017).
T N INV	***Parthenocissus inserta*** (A.Kern.) Fritsch – Note: This name is sometimes regarded as a heterotypic synonym of *P. quinquefolia* (L.) Planch., but it seems well distinct on molecular grounds (Lu et al. 2012). *Parthenocissus inserta* can be distinguished, besides the 3–5-branched tendrils without adhesive disks (Laguna Lumbreras 2005, a feature not always clearly noticeable), for the structure of the inflorescence. *Parthenocissus inserta* shows a compound dichasium, while *P. quinquefolia* shows an elongated axis bearing numerous lateral dichasia (Pringle 2010; Lu et al. 2012). The distribution area remains to be defined; this species is possibly more spread and invasive than *P. quinquefolia*.
N INV	***Parthenocissus quinquefolia*** (L.) Planch. – Note: This species is often confused with *P. inserta* (A.Kern.) Fritsch; the occurrence in the wild of hybrids between the two species is also possible.
N NAT	***Parthenocissus tricuspidata*** (Siebold & Zucc.) Planch.
N NAT FER	***Vitis*** ×***bacoi*** Ardenghi, Galasso & Banfi – Parentage: *V. riparia* Michx. × *V. vinifera* L. Note: In some areas (e.g., LOM), complex hybrids possibly involving also *V. aestivalis* Michx., have been recorded as naturalized (Ardenghi et al. 2015c; Ardenghi and Polani 2016).
N NAT FER	***Vitis*** ×***gallica*** F.M.Vázquez – Parentage: *V. berlandieri* Planch. × *V. vinifera* L.
N NAT FER	***Vitis*** ×***goliath*** Ardenghi, Galasso & Banfi – Parentage: *V. riparia* Michx. × *V. rupestris* Scheele × *V. vinifera* L.
N INV FER	***Vitis*** ×***instabilis*** Ardenghi, Galasso, Banfi & Lastrucci – Parentage: *V. riparia* Michx. × *V. rupestris* Scheele.
N INV FER	***Vitis*** ×***koberi*** Ardenghi, Galasso, Banfi & Lastrucci – Parentage: *V. berlandieri* Planch. × *V. riparia* Michx.
N NAT FER	***Vitis labrusca*** L. – Note: Feral and culton of the same species, *V. labrusca* L. (N-America).
N NAT FER	***Vitis*** ×***novae-angliae*** Fernald – Parentage: *V. labrusca* L. × *V. riparia* Michx.

N INV	***Vitis riparia*** Michx.
N INV FER	***Vitis* ×*ruggerii*** Ardenghi, Galasso, Banfi & Lastrucci – Parentage: *V. berlandieri* Planch. × *V. rupestris* Scheele.
N INV	***Vitis rupestris*** Scheele
	Zygophyllaceae
N NAT	***Zygophyllum fabago*** L.
	Fabaceae
	Taxonomic references: *Ervilia* Link, *Lathyrus* L. (incl. *Pisum* L.), *Vicia* L. (incl. *Lens* Mill.) (Schaefer et al. 2012); *Erythrostemon* Klotzsch, *Tara* Molina (Gagnon et al. 2016); *Parasenegalia* Seigler & Ebinger (Seigler et al. 2017); *Styphnolobium* Schott (Sousa and Rudd 1993); *Trigonella* L. (incl. *Melilotus* 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 subsp. ***dealbata***
N NAT	***Acacia longifolia*** (Andrews) Willd. – Note: It is unclear whether the autonymic subspecies or *A. longifolia* (Andrews) Willd. subsp. *sophorae* (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 CAS?	***Anthyllis vulneraria*** L. subsp. ***vulneraria***
N INV	***Apios americana*** Medik.
N CAS CLT	***Arachis hypogaea*** L. – Parentage: *A. duranensis* Krapov. & W.C.Greg. × *A. ipaensis* Krapov. & W.C.Greg. (SE-Bolivia/NW-Argentine).
N NC	***Astragalus odoratus*** Lam.
N CAS	***Caragana arborescens*** Lam.
A NAT	***Ceratonia siliqua*** L. – Note: According to Ramón-Laca and Mabberley (2004), this species is an archaeophyte.
A CAS CLT	***Cicer arietinum*** L. – Note: Directly domesticated from *C. reticulatum* Ladiz. (NW-Syria).
N CAS	***Cladrastis platycarpa*** (Maxim.) Makino
N NC	***Cullen americanum*** (L.) Rydb.
N CAS	***Dipogon lignosus*** (L.) Verdc.
A NAT	***Ervilia sativa*** Link
N NAT	***Erythrostemon gilliesii*** (Wall. ex Hook.) Klotzsch
A NAT	***Galega officinalis*** L.
N NAT	***Gleditsia triacanthos*** L.
N CAS CLT	***Glycine max*** (L.) Merr. subsp. ***max*** – Note: Directly domesticated from *G. max* (L.) Merr. subsp. *soja* (Siebold & Zucc.) H.Ohashi (NE-China).
N CAS	***Glycyrrhiza echinata*** L.
N CAS	***Gymnocladus dioicus*** (L.) K.Koch
N D	*Haematoxylum campechianum* L.
N CAS	***Indigofera heterantha*** Wall. ex Brandis
N CAS	***Indigofera splendens*** Ficalho & Hiern
N CAS CLT	***Lablab purpureus*** (L.) Sweet – Note: Directly domesticated from a *L. purpureus* (L.) Sweet biotype bearing 2-seeded pods (Ethiopia).
A CAS CLT	***Lathyrus oleraceus*** Lam. subsp. ***oleraceus*** – Note: Directly domesticated from *L. oleraceus* Lam. subsp. *biflorus* (Raf.) H.Schaef., Coulot & Rabaute (Middle East).
A NAT FER	***Lathyrus sativus*** L. – Note: Feral of the same species, *L. sativus* L., in turn possibly directly domesticated from *L. cicera* L. (Turkey/Iraq or S-Balkans).
N NAT	***Leucaena leucocephala*** (Lam.) de Wit subsp. ***glabrata*** (Rose) Zárate
N CAS	***Lotus drepanocarpus*** Durieu
A CAS CLT	***Lupinus albus*** L. subsp. ***albus*** – Note: Directly domesticated from *L. albus* L. subsp. *graecus* (Boiss. & Spruner) Franco & P.Silva (Greece and Asia Minor).
N NAT FER	***Lupinus polyphyllus*** Lindl. – Note: Feral and culton of the same species, *L. polyphyllus* Lindl. (N-America).
N D	*Medicago blancheana* Boiss.
N CAS	***Medicago monantha*** (C.A.Mey.) Trautv.
A NAT FER	***Medicago sativa*** L. – Note: Feral and culton of the same species, *M. sativa* L. (Iran).
A NAT	***Medicago* ×*varia*** Martyn – Parentage: *M. falcata* L. × *M. sativa* L. Note: Most likely this nothospecies is much more widespread than currently recorded.
N NAT	***Parasenegalia visco*** (Lorentz ex Griseb.) Seigler & Ebinger
N NAT	***Paraserianthes lophantha*** (Willd.) I.C.Nielsen subsp. ***lophantha***
N INV	***Parkinsonia aculeata*** L.
N CAS CLT	***Phaseolus vulgaris*** L. subsp. ***vulgaris*** – Note: Directly domesticated from *P. vulgaris* L. subsp. *aborigineus* (Burkart) Burkart & Bruecker (Andes).
N INV	***Pueraria lobata*** (Willd.) Ohwi – Note: For the taxonomy of this species, see Sun et al. (2005) and Banfi and Galasso (2010).
N CAS	***Retama monosperma*** (L.) Boiss. subsp. ***monosperma***
N NAT	***Robinia hispida*** L.
N CAS	***Robinia neomexicana*** A.Gray
N INV	***Robinia pseudoacacia*** L.
N INV	***Robinia viscosa*** Vent.
N CAS	***Senna corymbosa*** (Lam.) H.S.Irwin & Barneby
N NAT	***Sesbania punicea*** (Cav.) Benth.
N CAS	***Styphnolobium japonicum*** (L.) Schott
N CAS	***Tara spinosa*** (Feuillée ex Molina) Britton & Rose
N NAT FER	***Trifolium alexandrinum*** L. – Parentage: *T. salmoneum* Mouterde → *T. berytheum* Boiss. & C.I.Blanche (Middle East).
N CAS	***Trifolium cinctum*** DC.
N D	*Trifolium clypeatum* L.
N CAS	***Trifolium constantinopolitanum*** Ser.
N CAS	***Trifolium dalmaticum*** Vis.

A NAT FER ***Trifolium incarnatum*** L. subsp. ***incarnatum*** – Note: Feral and culton of *T. incarnatum* L. subsp. *molinerii* (Balb. ex Hornem.) Ces.
N CAS ***Trifolium retusum*** L.
A CAS ***Trigonella caerulea*** (L.) Ser.
N NAT ***Trigonella dentata*** (Waldst. & Kit.) Coulot & Rabaute
A NAT ***Trigonella foenum-graecum*** L.
N NC ***Trigonella lilacina*** Boiss.
N CAS ***Vachellia caven*** (Molina) Seigler & Ebinger
N CAS ***Vachellia farnesiana*** (L.) Wight & Arn.
N NAT ***Vachellia karroo*** (Hayne) Banfi & Galasso
A CAS CLT ***Vicia faba*** L. – Note: Directly domesticated from an extinct unit (Middle East).
A CAS CLT ***Vicia lens*** (L.) Coss. & Germ. subsp. ***lens*** – Note: Directly domesticated from *V. lens* (L.) Coss. & Germ. subsp. *orientalis* (Boiss.) Galasso, Banfi, Bartolucci & J.-M.Tison (Middle East).
A CAS CLT ***Vigna unguiculata*** (L.) Walp. – Note: Directly domesticated from *V. unguiculata* (L.) Walp. (W-Africa, Kintampo tribe, 4000–5000 years ago).
N CAS ***Wisteria floribunda*** (Willd.) DC.
N NAT ***Wisteria sinensis*** (Sims) Sweet

Polygalaceae
N CAS ***Polygala myrtifolia*** L.

Rosaceae
Taxonomic references: *Cotoneaster* Medik. (Fryer and Hylmö 2009); *Crataegus* L. (Phipps 2015); *Mespilus* L. (Phipps 2016a, 2016b); *Sorbus* L. (Bartolucci et al. 2018).
N D *Agrimonia repens* L.
N CAS ***Alchemilla mollis*** (Buser) Rothm.
N NAT ***Amelanchier lamarckii*** F.G.Schroed. – Note: For the identification of this species, see Schroeder (1972).
N CAS ***Chaenomeles japonica*** (Thunb.) Lindl. ex Spach
N CAS ***Chaenomeles speciosa*** (Sweet) Nakai
N CAS ***Cotoneaster apiculatus*** Rehder & E.H.Wilson
N CAS ***Cotoneaster dammeri*** C.K.Schneid. subsp. ***dammeri***
N CAS ***Cotoneaster franchetii*** Bois
N CAS ***Cotoneaster hissaricus*** Pojark.
N NAT ***Cotoneaster hjelmqvistii*** Flinck & B.Hylmö
N NAT ***Cotoneaster horizontalis*** Decne.
N NAT ***Cotoneaster lacteus*** W.W.Sm.
N NAT ***Cotoneaster pannosus*** Franch.
N NAT ***Cotoneaster salicifolius*** Franch.
N NAT ***Cotoneaster simonsii*** Baker – Note: For the nomenclature of this species, see Fryer and Zika (2014).
A NAT ***Crataegus azarolus*** L.
N NAT ***Crataegus coccinea*** L.
N CAS ***Crataegus crus-galli*** L.
N CAS ***Crataegus mexicana*** Moc. & Sessé ex DC.
N CAS ***Crataegus persimilis*** Sarg.
N NAT ***Crataegus submollis*** Sarg.
A NAT ***Cydonia oblonga*** Mill.
N NAT ***Eriobotrya japonica*** (Thunb.) Lindl.
N CAS CLT ***Fragaria ananassa*** Rozier – Parentage: Allooctoploid *F. chiloensis* (L.) Mill. × *F. virginiana* Mill.
N CAS ***Fragaria virginiana*** Mill.
N NAT FER ***Kerria japonica*** (L.) DC. – Note: Feral and culton of the same species, *K. japonica* (L.) DC. (Japan). The escaped plants correspond to the cultivar Flore Pleno.
A NAT FER ***Malus domestica*** (Borkh.) Borkh. – Parentage: *M. sieversii* (Ledeb.) M.Roem. (Transcaspian Region) → *M. sylvestris* (L.) Mill. (Europe).
N NAT ***Malus hupehensis*** (Pamp.) Rehder
A NAT ***Mespilus germanica*** L.
N CAS ***Photinia serratifolia*** (Desf.) Kalkman
N NAT ***Physocarpus opulifolius*** (L.) Maxim.
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, *P. armeniaca* L. (Transcaspian Region: Kazakhstan/China, Tien Shan mountains).
A NAT FER ***Prunus cerasifera*** Ehrh. – Note: Feral and culton of the same species, *P. cerasifera* Ehrh. (Asia Minor).
A NAT FER ***Prunus cerasus*** L. – Note: Feral of the same species, *P. cerasus* L., in turn directly domesticated from *P. fruticosa* Pall. (Balkan Region).
A NAT FER ***Prunus domestica*** L. – Parentage: *P. cerasifera* Ehrh. (Pontic Turkey) × *P. microcarpa* C.A.Mey. (Hyrcanic Region, Caspian Sea) → *P. spinosa* L. (Europe).
A NAT FER ***Prunus dulcis*** (Mill.) D.A.Webb – Note: Feral of the same species, *P. dulcis* (Mill.) D.A.Webb, in turn directly domesticated from *P. fenzliana* Fritsch (Turkey).
N CAS CLT ***Prunus*** ×***hybrida*** (Schmidt) Galasso, Banfi & Bartolucci – Parentage: *P. dulcis* (Mill.) D.A.Webb ♀ × *P. persica* (L.) Batsch ♂. Note: For the nomenclature of this species, see Banfi et al. (2018). Under the Art. H.10.2. of ICN, the names "*amygdalo-persica*", "*communi-persica*", and "*persico-amygdala*" (see Rehder 1922) 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, *P. persica* (L.) Batsch (China).
N INV ***Prunus serotina*** Ehrh.
N CAS ***Pyracantha angustifolia*** (Franch.) C.K.Schneid.
T N CAS ***Pyracantha crenatoserrata*** (Hance) Rehder – Note: This species is doubtfully distinct from *P. crenulata* (D.Don) M.Roem., and it is sometimes improperly named *P. fortuneana* (Maxim.) H.L.Li (e.g., Gu and Spongberg 2003). However, its type material does not belong to the genus *Pyracantha* M.Roem., but to *Photinia* Lindl. (Webb et al. 1988; Clement 2012).
N NAT ***Pyracantha crenulata*** (D.Don) M.Roem.
N CAS ***Pyracantha koidzumii*** (Hayata) Rehder

A CAS CLT	***Pyrus communis*** L. subsp. ***communis*** – Note: Directly domesticated from *P. communis* L. subsp. *pyraster* (L.) Ehrh.
N CAS	***Rhaphiolepis umbellata*** (Thunb.) Makino
N CAS CLT	***Rosa alba*** L. – Parentage: Unknown.
N CAS	***Rosa banksiae*** W.T.Aiton
N CAS	***Rosa blanda*** Aiton
N NAT	***Rosa bracteata*** J.C.Wendl.
A CAS CLT	***Rosa centifolia*** L. – Putative parentage: *R.* ×*damascena* L. × *Rosa* sp.
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 *S. tomentosa* (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 ABR and LOM have to be referred to *S.* ×*thuringiaca* (Nyman) Fritsch, a native hybrid between *S. aria* (L.) Crantz and *S. aucuparia* L. subsp. *aucuparia*.
N CAS	***Spiraea cantoniensis*** Lour.
N CAS	***Spiraea hypericifolia*** L. subsp. ***obovata*** (Waldst. & Kit. ex Willd.) H.Huber
N INV	***Spiraea japonica*** L.f.
N NAT	***Spiraea salicifolia*** L.
N CAS CLT	***Spiraea*** ×***vanhouttei*** (Briot) Carrière – Parentage: *S. cantoniensis* Lour. × *Spiraea trilobata* L.
	Elaeagnaceae
N NAT	***Elaeagnus angustifolia*** L.
N CAS	***Elaeagnus commutata*** Bernh. ex Rydb.
N CAS CLT	***Elaeagnus*** ×***ebbingei*** Door. – Parentage: *E. macrophylla* Thunb. × *E. pungens* Thunb.
N INV	***Elaeagnus pungens*** Thunb.
N NAT	***Elaeagnus umbellata*** Thunb.
	Rhamnaceae
	Taxonomic references: *Colletia* Comm. ex Juss. (Tortosa 1989; Galasso 2013).
N CAS	***Colletia spinosissima*** J.F.Gmel.
A NAT	***Ziziphus jujuba*** Mill.
	Ulmaceae
N INV	***Ulmus pumila*** L.
	Cannabaceae
A CAS CLT	***Cannabis sativa*** L. – Note: Directly domesticated from the same species, *C. sativa* L. (Mongolia, N-China).
N NAT	***Celtis occidentalis*** L.
N INV	***Humulus japonicus*** Siebold & Zucc.
	Moraceae
N INV	***Broussonetia papyrifera*** (L.) Vent.
N CAS	***Ficus benjamina*** L.
N CAS	***Ficus elastica*** Roxb. ex Hornem.
N CAS	***Ficus macrophylla*** Pers. subsp. ***columnaris*** (C.Moore) P.S.Geen
N NAT	***Ficus microcarpa*** L.f.
N CAS	***Ficus pumila*** L.
N CAS	***Ficus retusa*** L.
N CAS	***Ficus rubiginosa*** Desf. ex Vent.
N CAS	***Ficus sagittata*** Vahl
N NAT	***Ficus watkinsiana*** F.M.Bailey
N NAT	***Maclura pomifera*** (Raf.) C.K.Schneid.
A NAT	***Morus alba*** L.
N CAS	***Morus indica*** L.
N CAS	***Morus kagayamae*** Koidz.
A CAS	***Morus nigra*** L.
	Urticaceae
N NAT	***Boehmeria nivea*** (L.) Gaudich.
	Fagaceae
N INV	***Quercus rubra*** L.
N CAS	***Quercus shumardii*** Buckley
	Juglandaceae
N CAS	***Juglans cinerea*** L.
N INV	***Juglans nigra*** L.
N NAT	***Pterocarya fraxinifolia*** (Lam.) Spach

	Casuarinaceae
N CAS	***Allocasuarina verticillata*** (Lam.) L.A.S.Johnson
N CAS	***Casuarina cunninghamiana*** Miq. subsp. ***cunninghamiana***
N NAT	***Casuarina equisetifolia*** L.
	Betulaceae
N CAS	***Corylus colurna*** L.
N CAS	***Corylus maxima*** Mill.
	Cucurbitaceae
	Taxonomic references: Nesom (2011).
A CAS CLT	***Citrullus lanatus*** (Thunb.) Matsum. & Nakai subsp. ***lanatus*** – Note: Directly domesticated from *Citrullus lanatus* (Thunb.) Matsum. & Nakai subsp. *kordophanus* Ter-Avan. (Sudan) (Chomicki and Renner 2014; Renner et al. 2017).
A CAS CLT	***Cucumis melo*** L. subsp. ***melo*** – Note: Directly domesticated from *C. melo* L. subsp. *agrestis* (Naudin) Pangalo (India).
A CAS CLT	***Cucumis sativus*** L. – Note: Directly domesticated from *C. hystrix* Chakrav. (India).
N CAS	***Cucurbita ficifolia*** Bouché
N CAS CLT	***Cucurbita maxima*** Duchesne subsp. ***maxima*** – Note: Directly domesticated from *C. maxima* Duchesne subsp. *andreana* (Naudin) Filov (Argentine).
N CAS CLT	***Cucurbita melopepo*** L. subsp. ***melopepo*** – Note: Directly domesticated from *C. melopepo* L. subsp. *texana* (Scheele) G.L.Nesom (southwestern N-America).
N CAS CLT	***Cucurbita moschata*** Duchesne – Note: Directly domesticated from the same species, *C. moschata* Duchesne (Bolivia and Colombia).
N CAS CLT	***Cucurbita pepo*** L. subsp. ***pepo*** – Note: Directly domesticated from *C. pepo* L. subsp. *gumala* 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 CAS	***Sechium edule*** (Jacq.) Sw.
N INV	***Sicyos angulatus*** L.
N CAS	***Thladiantha dubia*** Bunge
	Begoniaceae
N NAT	***Begonia grandis*** Dryand. subsp. ***grandis***
	Celastraceae
N CAS	***Euonymus americanus*** L.
N NAT	***Euonymus fortunei*** (Turcz.) Hand.-Mazz.
N NAT	***Euonymus japonicus*** Thumb.
N CAS	***Euonymus lucidus*** D.Don
	Oxalidaceae
N INV	***Oxalis articulata*** Savigny
N NAT	***Oxalis bowiei*** Aiton ex G.Don
N NAT	***Oxalis debilis*** Kunth
N INV	***Oxalis dillenii*** Jacq.
N CAS	***Oxalis incarnata*** L.
N NAT	***Oxalis latifolia*** Kunth
N CAS	***Oxalis megalorrhiza*** Jacq.
N INV	***Oxalis pes-caprae*** L.
N NAT	***Oxalis purpurata*** Jacq.
N NAT	***Oxalis purpurea*** L.
N INV	***Oxalis stricta*** L.
N CAS	***Oxalis tetraphylla*** Cav.
N NAT	***Oxalis violacea*** L.
	Hypericaceae
N D	*Hypericum balearicum* L. – Note: The locality cited by some authors (LIG, Apennines above Savona) is the result of a past introduction (Robson 1985). According to Burnat (1896) and Fiori (1898), the Ligurian population recorded by Parlatore (1875) was almost certainly cultivated.
N NAT	***Hypericum calycinum*** L.
N NAT	***Hypericum majus*** (A.Gray) Britton
N NAT	***Hypericum mutilum*** L. subsp. ***mutilum***
	Elatinaceae
N D	*Elatine ambigua* Wight – Note: According to Sramkó et al. (2016), *E. ambigua* would not occurr in Europe. However, we cannot exclude that this name could even be treated as a heterotypic synonym of the native *E. triandra* Schkuhr.
	Violaceae
	Taxonomic references: *Viola* L. (Gil-Ad 1997; McKinney and Russell 2002; Little and McKinney 2016).
N CAS	***Viola adunca*** Sm.
N NAT	***Viola cornuta*** L.
N CAS	***Viola palmata*** L.
N INV	***Viola sororia*** Willd. – Note: Past records of *Viola cucullata* should be likely attributed to *V. sororia*.
N CAS CLT	***Viola wittrockiana*** Gams – Parentage: *V. altaica* Ker Gawl. (W-Siberia) × *V. lutea* Huds. (CW-Europe) → *V. tricolor* L. (Eurasia).
	Passifloraceae
N NAT	***Passiflora caerulea*** L.
N CAS	***Passiflora incarnata*** L.

	Salicaceae
	Taxonomic references: *Salix* L. (Skvortsov 1999).
N NAT	***Populus balsamifera*** L.
N NAT FER	***Populus* ×*canadensis*** Moench – Parentage: *P. deltoides* W.Bartram ex Marshall × *P. nigra* L.
N NAT	***Populus deltoides*** W.Bartram ex Marshall
N CAS CLT	***Salix babylonica*** L. – Note: Directly domesticated from the same species, *S. babylonica* L. (E-Asia). Most of the records for this species could refer to *S.* ×*salamonii* (Villevielle) Carrière.
N CAS	***Salix dasyclados*** Wimm.
N NAT	***Salix eriocephala*** Michx.
A CAS	***Salix euxina*** I.V.Belyaeva – Note: For the nomenclature of this species, see Belyaeva (2009).
A NAT	***Salix* ×*fragilis*** L. – Parentage: *S. alba* L. × *S. euxina* I.V.Belyaeva. Note: For the nomenclature of this hybrid, see Belyaeva (2009).
N CAS CLT	***Salix* ×*pendulina*** Wender. – Putative parentage: *S. babylonica* L. × *S. euxina* I.V.Belyaeva.
N CAS CLT	***Salix* ×*salamonii*** (Villevielle) Carrière – Putative parentage: *S. alba* L. × *S. babylonica* L. Note: The diagnosis by Villevielle (in Carrière) is very concise ("il monte en pyramide, ne s'étale pas comme le saule pleureur, bien qu'il conserve le caractère général, très-prononcé, de ce dernier.": its growing habit is pyramidal, not expanded as the weeping willow, although it visually preserves the characters of the latter). However, this name can be safely applied to this systematic unit on the basis of subsequent descriptions, such as the one by Henry and Henry (1913).
A NAT	***Salix viminalis*** L.
	Euphorbiaceae
N NAT	***Acalypha australis*** L.
N CAS	***Acalypha ostryifolia*** Riddell ex J.M.Coult.
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 NC	***Euphorbia engelmannii*** Boiss.
N NAT	***Euphorbia glyptosperma*** Engelm.
N NAT	***Euphorbia graminea*** Jacq.
N CAS	***Euphorbia heterophylla*** L.
N NAT	***Euphorbia humifusa*** Willd. ex Schlecht.
N NAT	***Euphorbia hypericifolia*** L.
N NAT	***Euphorbia hyssopifolia*** L.
A NAT	***Euphorbia lathyris*** L.
N INV	***Euphorbia maculata*** L.
N CAS	***Euphorbia marginata*** Pursh
N INV	***Euphorbia nutans*** Lag.
N NC	***Euphorbia oblongata*** Griseb.
N INV	***Euphorbia prostrata*** Aiton
N CAS	***Euphorbia pulcherrima*** Willd. ex Klotzsch
N NAT	***Euphorbia serpens*** Kunth
N NAT	***Euphorbia thymifolia*** L.
N NC	***Euphorbia valerianifolia*** Lam.
N CAS CLT	***Manihot esculenta*** Crantz subsp. ***esculenta*** – Note: Directly domesticated from *M. esculenta* Crantz subsp. *flabellifolia* (Pohl) Cif. (CW-Brasil).
N NAT	***Manihot grahamii*** Hook.
A INV	***Ricinus communis*** L.
	Linaceae
N NAT	***Linum austriacum*** L.
N CAS	***Linum grandiflorum*** Desf.
A CAS CLT	***Linum usitatissimum*** L. subsp. ***usitatissimum*** – Note: Directly domesticated from *L. usitatissimum* L. subsp. *angustifolium* (Huds.) Thell. (Middle East).
	Phyllanthaceae
N NAT	***Phyllanthus tenellus*** Roxb.
	Geraniaceae
	Taxonomic references: *Pelargonium* L'Hér. (Miller 1996).
N NAT	***Erodium glaucophyllum*** (L.) L'Hér.
N CAS	***Pelargonium capitatum*** (L.) L'Hér.
N CAS	***Pelargonium cucullatum*** (L.) L'Hér.
N CAS	***Pelargonium graveolens*** (Thunb.) L'Hér.
N CAS CLT	***Pelargonium* ×*hortorum*** L.H.Bailey – Parentage: *P. inquinans* (L.) L'Hér. × *P. zonale* (L.) L'Hér. – Note: According to Miller (1996), all the forms attributed in Europe to *P. inquinans* (L.) L'Hér. ex Aiton or to *P. zonale* (L.) L'Hér. should be referred to *P.* ×*hortorum*, given that the presence or absence of the leaf colored band are variable in a heterozygous gene pool. The true *P. inquinans* can be distinguished on the basis of the abundant glands, staining even hands and herbarium sheets of rust color, on stems, petioles and peduncles.
N CAS	***Pelargonium peltatum*** (L.) L'Hér.
	Lythraceae
	Taxonomic references: *Ammannia* L. (Graham 1979, 1985; Banfi and Galasso 2010; Ardenghi and Galasso 2013); *Rotala* L. (Cook 1979).
N NAT	***Ammannia auriculata*** Willd.
N NAT	***Ammannia baccifera*** L.
N INV	***Ammannia coccinea*** Rottb.
N NAT	***Ammannia robusta*** Heer & Regel
N CAS	***Ammannia senegalensis*** Lam.
N NAT	***Ammannia verticillata*** (Ard.) Lam.
N CAS	***Cuphea hyssopifolia*** Kunth
N CAS	***Lagerstroemia indica*** L.
A NAT FER	***Punica granatum*** L. – Note: Feral and culton of the same species, *P. granatum* L.
N NAT	***Rotala densiflora*** (Roth) Koehne

N NAT	***Rotala filiformis*** (Bellardi) Hiern
N NAT	***Rotala indica*** (Willd.) Koehne
N NAT	***Rotala ramosior*** (L.) Koehne
	Onagraceae
	Taxonomic references: *Ludwigia* L. (Galasso 2007); *Oenothera* L. (Soldano 1993).
N NAT	***Epilobium ciliatum*** Raf.
N INV	***Ludwigia hexapetala*** (Hook. & Arn.) Zardini, H.Y.Gu & P.H.Raven
N INV	***Ludwigia peploides*** (Kunth) P.H.Raven subsp. ***montevidensis*** (Spreng.) P.H.Raven
N INV	***Oenothera adriatica*** Soldano
N NAT	***Oenothera biennis*** L.
T N NAT	***Oenothera chicaginensis*** 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 *O. pycnocarpa* G.F.Atk. & Bartlett, but we prefer to provisionally consider them as distinct species (cf. Soldano 1993).
N CAS	***Oenothera deflexa*** R.R.Gates
N CAS	***Oenothera depressa*** Greene
N NAT	***Oenothera fallacoides*** Soldano & Rostański
N CAS	***Oenothera fruticosa*** L. subsp. ***tetragona*** (Roth) W.L.Wagner
N CAS	***Oenothera gaura*** W.L.Wagner & Hoch
N INV	***Oenothera glazioviana*** Micheli
N D	*Oenothera grandiflora* L'Hér.
N NAT	***Oenothera indecora*** Cambess.
N NAT	***Oenothera italica*** Rostański & Soldano
N CAS	***Oenothera laciniata*** Hill
N INV	***Oenothera latipetala*** (Soldano) Soldano
N CAS	***Oenothera lindheimeri*** (Engelm. & A.Gray) W.L.Wagner & Hoch
N NAT	***Oenothera marinellae*** Soldano
N INV	***Oenothera oakesiana*** (A.Gray) J.W.Robbins ex S.Watson & J.M.Coult.
N NAT	***Oenothera oehlkersii*** Kappus ex Rostański
N CAS	***Oenothera parviflora*** L.
N NAT	***Oenothera pedemontana*** Soldano
N NAT	***Oenothera pellegrinii*** Soldano
N CAS	***Oenothera rosea*** L'Hér. ex Aiton
N NAT	***Oenothera royfraseri*** R.R.Gates
N INV	***Oenothera sesitensis*** Soldano
N CAS	***Oenothera sinuosa*** W.L.Wagner & Hoch
N NAT	***Oenothera speciosa*** Nutt.
N NAT	***Oenothera stricta*** Ledeb. ex Link subsp. ***stricta*** – Note: The specific epithet was published as "*striata*", but it is a typographical error to be corrected in "*stricta*", according to the name published later by Ledebour (1822) (Art. 60.1. of ICN).
N INV	***Oenothera stucchii*** Soldano
N NAT	***Oenothera suaveolens*** Desf. ex Pers.
	Myrtaceae
N CAS	***Acca sellowiana*** (O.Berg) Burret
N CAS	***Eucalyptus botryoides*** Sm.
N INV	***Eucalyptus camaldulensis*** Dehnh. subsp. ***camaldulensis***
N NAT	***Eucalyptus globulus*** Labill. subsp. ***globulus***
N CAS	***Eucalyptus globulus*** Labill. subsp. ***maidenii*** (F.Muell.) J.B.Kirkp.
N CAS	***Eucalyptus gomphocephala*** DC.
N CAS	***Eucalyptus leucoxylon*** F.Muell. subsp. ***leucoxylon***
N NAT	***Eucalyptus occidentalis*** Endl.
N CAS	***Eucalyptus robusta*** Sm.
N CAS	***Eucalyptus rudis*** Endl. subsp. ***rudis***
N CAS	***Eucalyptus sideroxylon*** A.Cunn. ex Woolls
N CAS	***Eucalyptus tereticornis*** Sm.
N CAS	***Eucalyptus viminalis*** Labill. subsp. ***viminalis***
	Anacardiaceae
	Taxonomic references: *Schinus* L. (Zona 2015).
N CAS	***Rhus chinensis*** Mill.
N CAS	***Rhus laevigata*** L.
N NAT	***Rhus typhina*** L.
N NAT	***Schinus molle*** L.
N CAS	***Schinus terebinthifolia*** Raddi
N CAS	***Toxicodendron pubescens*** Mill.
N CAS	***Toxicodendron radicans*** (L.) Kuntze subsp. ***radicans***
	Sapindaceae
N INV	***Acer negundo*** L.
N CAS	***Acer palmatum*** Thunb.
N CAS	***Acer pensylvanicum*** L.
N CAS	***Acer rubrum*** L.
N CAS	***Acer saccharinum*** L. subsp. ***saccharinum***
N NAT	***Acer tataricum*** L. subsp. ***ginnala*** (Maxim.) Wesm.
N CAS CLT	***Aesculus carnea*** Hayne – Parentage: Allotetraploid *A. hippocastanum* L. (Balkan Peninsula) × *A. pavia* L. (N-America).
N CAS	***Aesculus hippocastanum*** L.
N NAT	***Cardiospermum grandiflorum*** Sw.
N NAT	***Cardiospermum halicacabum*** L.

N NAT	***Koelreuteria paniculata*** Laxm.
	Rutaceae
	Taxonomic references: *Citrus* L. (incl. *Poncirus* Raf.) (Bayer et al. 2009; Penjor et al. 2013).
N CAS	***Choisya ternata*** Kunth
A CAS CLT	***Citrus* ×*aurantium*** L. – Parentage: *C. maxima* (Burnm.) Merr. × *C. reticulata* Blanco. Note: For the nomenclature of this hybrid, see Mabberley (1997, 2004).
A CAS CLT	***Citrus* ×*limon*** (L.) Osbeck – Parentage: *C.* ×*aurantium* L. × *C. medica* L. Note: For the nomenclature of this hybrid, see Mabberley (1997, 2004).
N CAS	***Citrus trifoliata*** L.
N CAS	***Ptelea trifoliata*** L.
N NAT	***Zanthoxylum armatum*** DC.
	Simaroubaceae
N INV	***Ailanthus altissima*** (Mill.) Swingle
	Meliaceae
N NAT	***Melia azedarach*** L.
	Malvaceae
A INV	***Abutilon theophrasti*** Medik.
N NAT	***Alcea biennis*** Winterl subsp. ***biennis***
A NAT	***Alcea rosea*** L.
N NAT	***Alcea setosa*** (Boiss.) Alef.
N CAS CLT	***Anisodontea* ×*hypomadara*** (Sprague) D.M.Bates – Parentage: Unknown.
N CAS	***Anoda cristata*** (L.) Schltdl.
N CAS	***Brachychiton discolor*** F.Muell.
N CAS	***Brachychiton diversifolius*** R.Br. subsp. ***diversifolius***
N CAS	***Brachychiton populneus*** (Schott & Endl.) R.Br.
N CAS	***Ceiba speciosa*** (A.St.-Hil., A.Juss. & Cambess.) Ravenna
N CAS	***Firmiana simplex*** (L.) W.Wight
A CAS CLT	***Gossypium herbaceum*** L. subsp. ***herbaceum*** – Note: Directly domesticated from *G. herbaceum* L. subsp. *africanum* (G.Watt) Vollesen (NE-Africa).
N CAS CLT	***Gossypium hirsutum*** L. – Note: Directly domesticated from the same species, *G. hirsutum* L. (Gulf of Mexico, coastal area).
N NAT	***Hibiscus moscheutos*** L. subsp. ***moscheutos*** – Note: For the taxonomy of this species, see Blanchard (2008).
N CAS CLT	***Hibiscus rosa-sinensis*** L. – Parentage: Unknown (China).
N CAS	***Hibiscus syriacus*** L.
N NAT	***Hibiscus trionum*** L.
N CAS	***Lagunaria patersonia*** (Andrews) G.Don
N CAS	***Malva verticillata*** L.
N NAT	***Modiola caroliniana*** (L.) G.Don
N CAS	***Pavonia hastata*** Cav.
N CAS	***Sida spinosa*** L.
N CAS	***Tilia americana*** L.
N NAT	***Tilia tomentosa*** Moench
	Cistaceae
N CAS	***Cistus ladanifer*** L. subsp. ***ladanifer***
	Tropaeolaceae
N NAT	***Tropaeolum majus*** L.
	Resedaceae
N CAS	***Reseda odorata*** L.
	Cleomaceae
	Taxonomic references: *Tarenaya* Raf. (Iltis and Cochrane 2014).
N NAT	***Polanisia trachysperma*** Torr. & A.Gray
N CAS	***Tarenaya hassleriana*** (Chodat) Iltis
N CAS	***Tarenaya spinosa*** (Jacq.) Raf.
	Brassicaceae
	Taxonomic references: *Aubrieta* Adans. (Koch et al. 2017); *Cochlearia* L. and *Ionopsidium* Rchb. (Koch 2012).
A CAS	***Alyssum fulvescens*** Sm.
A NAT	***Armoracia rusticana*** G.Gaertn., B.Mey. & Scherb.
N NAT	***Aubrieta deltoidea*** (L.) DC.
N NAT	***Aurinia saxatilis*** (L.) Desv. subsp. ***saxatilis***
N NC	***Brassica elongata*** Ehrh. subsp. ***elongata***
N CAS	***Brassica elongata*** Ehrh. subsp. ***integrifolia*** (Boiss.) Breistr.
A CAS	***Brassica juncea*** (L.) Czern. – Note: Archaeobotanical remains of half XIV–late XV century A.D. (Bosi et al. 2014).
A NAT	***Brassica napus*** L.
A NAT FER	***Brassica oleracea*** L. – Putative parentage: *B. cretica* Lam. → *B. incana* Ten. → *B. montana* Pourr. (eastern Mediterranean Region).
A CAS CLT	***Brassica rapa*** L. subsp. ***rapa*** – Note: Directly domesticated from *B. rapa* L. subsp. *campestris* (L.) A.R.Clapham (Mesopotamia).
N NAT	***Bunias orientalis*** L.
N CAS	***Camelina rumelica*** Velen.
N INV	***Capsella grandiflora*** (Fauché & Chaub.) Boiss.
N NAT	***Cardamine occulta*** Hornem. – Note: For the nomenclature of this species, see Marhold et al. (2016).
N INV	***Chorispora tenella*** (Pall.) DC.
N NAT	***Cochlearia officinalis*** L. subsp. ***officinalis***
A NAT	***Conringia orientalis*** (L.) Andrz. ex DC.

N D	*Crambe maritima* L.
N NC	***Erucaria hispanica*** (L.) Druce
A NAT	***Erysimum cheiranthoides*** L.
A NAT FER	***Erysimum cheiri*** (L.) Crantz – Parentage: Unknown.
N CAS	***Erysimum repandum*** L.
N CAS	***Euclidium syriacum*** (L.) W.T.Aiton
N CAS	***Iberis amara*** L.
N CAS	***Ionopsidium acaule*** (Desf.) Rchb. – Note: For the nomenclature of this species, see Koch (2012) and Al-Shehbaz (2012).
N NAT	***Ionopsidium glastifolium*** (L.) M.Koch
A INV	***Isatis tinctoria*** L. subsp. ***tinctoria***
N CAS	***Lepidium bonariense*** L.
N NAT	***Lepidium densiflorum*** Schrad.
N CAS	***Lepidium densiflorum*** Schrad. × ***L. virginicum*** L. subsp. ***virginicum*** – Note: On the possibility that this hybrid is formed, see Al-Shehbaz and Gaskin (2010).
N NAT	***Lepidium didymum*** L.
N NAT	***Lepidium heterophyllum*** Benth.
N CAS	***Lepidium perfoliatum*** L.
A NAT	***Lepidium sativum*** L. subsp. ***sativum***
N INV	***Lepidium virginicum*** L. subsp. ***virginicum***
N CAS	***Matthiola longipetala*** (Vent.) DC. subsp. ***bicornis*** (Sibth. & Sm.) PW.Ball
N NC	***Ochthodium aegyptiacum*** (L.) DC.
N D	*Odontarrhena muralis* (Waldst. & Kit.) Endl.
A CAS CLT	***Raphanus raphanistrum*** L. subsp. ***sativus*** (L.) Schmalh. – Note: Directly domesticated from *R. raphanistrum* L. subsp. *raphanistrum* (eastern Mediterranean Region).
A CAS	***Rapistrum perenne*** (L.) All.
N NAT	***Rorippa armoracioides*** (Tausch) Fuss
N NAT	***Rorippa austriaca*** (Crantz) Besser
N NAT	***Sisymbrium loeselii*** L.
N NAT	***Sisymbrium volgense*** M.Bieb. ex E.Fourn.
	Tamaricaceae
N CAS	***Tamarix chinensis*** Lour.
N NAT	***Tamarix macrocarpa*** (Ehrenb.) Bunge
N CAS	***Tamarix mascatensis*** Bunge
T N NAT	***Tamarix meyeri*** Boiss. – Note: This species is doubtfully distinct from *T. tetragyna* Ehrenb.
N D	*Tamarix nilotica* (Ehrenb.) Bunge
N NAT	***Tamarix parviflora*** DC.
N D	*Tamarix passerinoides* Delile ex Desv.
T N CAS	***Tamarix rosea*** Bunge – Note: This species is doubtfully distinct from *T. hampeana* Boiss. & Heldr.
N CAS?	***Tamarix tetrandra*** Pall. ex M.Bieb.
	Plumbaginaceae
N CAS	***Ceratostigma plumbaginoides*** Bunge
N CAS	***Goniolimon tataricum*** (L.) Boiss.
N CAS	***Limonium bonduellei*** (T.Letisb.) Kuntze
N NAT	***Plumbago auriculata*** Lam.
N CAS	***Plumbago zeylanica*** L.
	Polygonaceae
	Taxonomic references: *Koenigia* L. (Schuster et al. 2015); *Persicaria* (L.) Mill. (Galasso et al. 2014); *Pleuropterus* Turcz. and *Reynoutria* Houtt. (Padula et al. 2008; Galasso et al. 2009).
N NAT	***Fagopyrum dibotrys*** (D.Don) H.Hara
N NAT	***Fagopyrum esculentum*** Moench
N NAT	***Fagopyrum tataricum*** (L.) Gaertn.
N INV	***Fallopia baldschuanica*** (Regel) Holub
N NAT	***Koenigia polystachya*** (Wall. ex Meisn.) T.M.Schust. & Reveal
N NAT	***Persicaria bungeana*** (Turcz.) Nakai
N NAT	***Persicaria capitata*** (Buch.-Ham. ex D.Don.) H.Gross
N INV	***Persicaria filiformis*** (Thunb.) Nakai
N NAT	***Persicaria longiseta*** (Bruijn) Kitag.
N INV	***Persicaria nepalensis*** (Meisn.) H.Gross
N NAT	***Persicaria orientalis*** (L.) Spach
N INV	***Persicaria pensylvanica*** (L.) M.Gómez
N NAT	***Persicaria senegalensis*** (Meisn.) Soják
N INV	***Persicaria virginiana*** (L.) Gaertn.
N NAT	***Pleuropterus multiflorus*** (Thunb.) Nakai
N D	*Polygonum arenarium* Waldst. & Kit. subsp. *arenarium*
N INV	***Reynoutria bohemica*** Chrtek & Chrtková
N CAS	***Reynoutria compacta*** (Hook.f.) Nakai
N INV	***Reynoutria japonica*** Houtt.
N INV	***Reynoutria sachalinensis*** (F.Schmidt) Nakai
N NAT	***Rheum officinale*** L.
N CAS	***Rheum palmatum*** L.
N CAS	***Rheum rhabarbarum*** L.
N NAT	***Rumex kerneri*** Borbás
N CAS	***Rumex longifolius*** DC.
N NAT	***Rumex lunaria*** L.
A NAT	***Rumex patientia*** L. subsp. ***patientia***

N CAS CLT	***Rumex rugosus*** Campd. – Parentage: *R. thyrsiflorus* Fingerh., with possible involvement of another unknown species.
N CAS	***Rumex stenophyllus*** Ledeb.
N NAT	***Rumex thyrsiflorus*** Fingerh.
N NAT	***Rumex triangulivalvis*** (Danser) Rech.f.
N D	*Rumex vesicarius* L.
	Caryophyllaceae
A NAT	***Agrostemma githago*** L. subsp. ***githago***
N CAS	***Cerastium biebersteinii*** DC.
N CAS	***Dianthus plumarius*** L. subsp. ***plumarius***
N CAS	***Dianthus pontederae*** A.Kern. subsp. ***pontederae***
N CAS	***Gypsophila collina*** Steven ex Ser.
N CAS	***Gypsophila elegans*** M.Bieb.
N CAS	***Gypsophila paniculata*** L.
N CAS	***Gypsophila perfoliata*** L.
N CAS	***Gypsophila pilosa*** Huds.
N NC	***Lychnis chalcedonica*** L.
N D	*Ortegia hispanica* L.
N CAS	***Petrorhagia glumacea*** (Chaub. & Bory) P.W.Ball & Heywood
N CAS	***Silene conoidea*** L.
N CAS	***Silene flavescens*** Waldst. & Kit. subsp. ***flavescens***
N CAS	***Silene graeca*** Boiss. & Spruner
N CAS	***Silene heldreichii*** Boiss.
N CAS	***Silene viscosa*** (L.) Pers.
	Amaranthaceae
	Taxonomic references: *Alternanthera* Forssk. (Sánchez-del Pino et al. 2012; Iamonico and Sánchez-del Pino 2016); *Amaranthus* L. (Iamonico 2015; Iamonico and Galasso 2018).
N NAT	***Achyranthes aspera*** L.
T N NC	***Alternanthera paronychioides*** A.St.-Hil. subsp. ***paronychioides*** – Note: This species is doubtfully distinct from *A. ficoidea* (L.) P.Beauv.
N INV	***Alternanthera philoxeroides*** (Mart.) Griseb.
N CAS	***Alternanthera pungens*** Kunth
N CAS	***Alternanthera tenella*** Colla
N NC	***Amaranthus acutilobus*** Uline & W.L.Bray
N CAS	***Amaranthus*** ×***aellenii*** Cacciato nothosubsp. ***aellenii*** – Parentage: *A. cacciatoi* (Aellen ex Cacciato) Iamonico × *A. hybridus* L. subsp. *cruentus* (L.) Thell.
N CAS	***Amaranthus*** ×***aellenii*** Cacciato nothosubsp. ***monteluccii*** (Cacciato) Iamonico & Galasso – Parentage: *A. cacciatoi* (Aellen ex Cacciato) Iamonico × *A. hybridus* L. subsp. *hybridus*.
N INV	***Amaranthus albus*** L.
N INV	***Amaranthus blitoides*** S.Watson
T N INV	***Amaranthus bouchonii*** Thell. – Note: This species is doubtfully distinct from *A. powellii* S.Watson.
T N NAT	***Amaranthus cacciatoi*** (Aellen ex Cacciato) Iamonico – Note: This species, known only for the S-SE area of Rome (C-Italy) (Iamonico 2012), is doubtfully distinct from *A. powellii* S.Watson.
N D	*Amaranthus crassipes* Schltdl.
N INV	***Amaranthus crispus*** (Lesp. & Thévenau) A.Braun ex S.Watson & J.M.Coult.
N INV	***Amaranthus deflexus*** L.
T N NAT	***Amaranthus emarginatus*** Salzm. ex Uline & W.L.Bray subsp. ***emarginatus*** – Note: This species is doubtfully distinct from *A. blitum* L.
N CAS CLT	***Amaranthus hybridus*** L. subsp. ***caudatus*** (L.) Iamonico & Galasso – Parentage: *A. hybridus* L. subsp. *hybridus*, possibly with additional involvement of *A. hybridus* L. subsp. *quitensis* (Kunth) Costea & Carretero (S-America) (Stetter and Schmid 2017).
N INV FER	***Amaranthus hybridus*** L. subsp. ***cruentus*** (L.) Thell. – Note: Feral and culton of *A. hybridus* L. subsp. *hybridus* (C-America) (Stetter and Schmid 2017).
N INV	***Amaranthus hybridus*** L. subsp. ***hybridus***
N CAS CLT	***Amaranthus hybridus*** L. subsp. ***hypochondriacus*** (L.) Thell. – Note: Directly domesticated from *A. hybridus* L. subsp. *hybridus* (C-America) (Stetter and Schmid 2017).
N CAS	***Amaranthus*** ×***mauritii*** Sennen – Parentage: *A. deflexus* L. × *A. viridis* L.
N INV	***Amaranthus muricatus*** (Moq.) Gillies ex Hieron.
N CAS	***Amaranthus*** ×***ozanonii*** Thell. nothosubsp. ***ozanonii*** – Parentage: *A. hybridus* L. subsp. *hybridus* × *A. retroflexus* L.
N CAS	***Amaranthus*** ×***ozanonii*** Thell. nothosubsp. ***romanus*** (Iamonico) Iamonico & Galasso – Parentage: *A. hybridus* L. subsp. *cruentus* (L.) Thell. × *A. retroflexus* L.
N NAT	***Amaranthus palmeri*** S.Watson
N CAS	***Amaranthus polygonoides*** L.
N INV	***Amaranthus powellii*** S.Watson
N CAS	***Amaranthus*** ×***pyxidatus*** (Contré) Iamonico – Parentage: *A. cacciatoi* (Aellen ex Cacciato) Iamonico × *A. retroflexus* L.
N INV	***Amaranthus retroflexus*** L.
N CAS	***Amaranthus*** ×***soproniensis*** Priszter & Kárpáti – Parentage: *A. powellii* S.Watson × *A. retroflexus* L.
N CAS	***Amaranthus spinosus*** L.
N CAS	***Amaranthus tamariscinus*** Nutt.
N CAS CLT	***Amaranthus tricolor*** L. – Parentage: Unknown.
N INV	***Amaranthus tuberculatus*** (Moq.) J.D.Sauer
N INV	***Amaranthus viridis*** L.
N CAS	***Celosia argentea*** L. – Note: *Celosia cristata* L. is interpreted as a cultivar group derived from the selection of *C. argentea*, known only in cultivation or as casual alien.
N CAS CLT?	***Gomphrena globosa*** L.
	Chenopodiaceae
	Taxonomic references: *Salsola* L. (Rilke 1999; Kadereit et al. 2005; Mosyakin 2017).
A NAT FER	***Atriplex hortensis*** L. subsp. ***hortensis*** – Note: Feral of the same taxon, *A. hortensis* L. subsp. *hortensis*, in turn directly domesticated from *A. hortensis* L. subsp. *nitens* (Schkuhr) E.Pons (SE-Europe, SW-Asia).

A NAT	***Atriplex hortensis*** L. subsp. ***nitens*** (Schkuhr) E.Pons
N CAS	***Atriplex micrantha*** Ledeb. subsp. ***micrantha***
N INV	***Bassia scoparia*** (L.) Voss
N NAT	***Beta trigyna*** Waldst. & Kit.
A CAS CLT	***Beta vulgaris*** L. subsp. ***vulgaris*** – Note: Directly domesticated from *B. vulgaris* L. subsp. *maritima* (L.) Arcang. (Mesopotamia).
N CAS	***Blitum capitatum*** L.
N CAS	***Chenopodium bengalense*** (Lam.) Spielm. ex Steud. – Note: For the nomenclature of this species, see Sukhorukov and Kushunina (2014).
N CAS	***Chenopodium hircinum*** Schrad.
N NC	***Chenopodium pratericola*** Rydb.
N NAT	***Chenopodium probstii*** Aellen
N NAT	***Corispermum marschallii*** Steven
N INV	***Cycloloma atriplicifolium*** (Spreng.) J.M.Coult.
N INV	***Dysphania ambrosioides*** (L.) Mosyakin & Clemants
N NAT	***Dysphania anthelmintica*** (L.) Mosyakin & Clemants
N NAT	***Dysphania multifida*** (L.) Mosyakin & Clemants
N INV	***Dysphania pumilio*** (R.Br.) Mosyakin & Clemants
N CAS	***Dysphania schraderiana*** (Schult.) Mosyakin & Clemants
N CAS	***Enchylaena tomentosa*** R.Br.
N CAS	***Halogeton sativus*** (L.) Moq.
N NC	***Salsola kali*** L.
A CAS CLT	***Spinacia oleracea*** L. – Note: Domesticated from *S. turkestanica* Iljin (Transcaspian Region) or *S. tetrandra* Steven (Caucasian Region).
N CAS	***Teloxys aristata*** (L.) Moq.
	Aizoaceae
	Taxonomic references: Hartmann (2017).
N INV	***Carpobrotus acinaciformis*** (L.) L.Bolus
N NAT	***Carpobrotus aequilaterus*** (Haw.) N.E.Br.
N INV	***Carpobrotus edulis*** (L.) N.E.Br.
N CAS	***Delosperma cooperi*** (Hook.f.) L.Bolus
N CAS	***Drosanthemum candens*** (Haw.) Schwantes
N NAT	***Drosanthemum floribundum*** (Haw.) Schwantes
N CAS	***Drosanthemum hispidum*** (L.) Schwantes
N CAS	***Lampranthus deltoides*** (L.) Glen ex Wijnands
N INV	***Lampranthus elegans*** (Jacq.) Schwantes
T N CAS	***Lampranthus roseus*** (Willd.) Schwantes
N INV	***Malephora crocea*** (Jacq.) Schwantes
N NAT	***Malephora lutea*** (Haw.) Schwantes
N CAS	***Malephora uitenhagensis*** (L.Bolus) H.Jacobsen & Schwantes
N INV	***Mesembryanthemum cordifolium*** L.f.
N NAT	***Ruschia tumidula*** (Haw.) Schwantes
N NAT	***Tetragonia tetragonoides*** (Pall.) Kuntze
	Phytolaccaceae
N CAS	***Phytolacca acinosa*** Roxb.
N INV	***Phytolacca americana*** L.
N NAT	***Phytolacca dioica*** L.
	Nyctaginaceae
	Taxonomic references: *Boerhavia* L. (Struwig and Siebert 2013).
T N INV	***Boerhavia coccinea*** Mill.
T N CAS	***Boerhavia repens*** L. subsp. ***diandra*** (L.) Maire & Weiller
N CAS	***Bougainvillea spectabilis*** Willd.
N INV	***Mirabilis jalapa*** L.
N NAT	***Mirabilis longiflora*** L.
N NAT	***Mirabilis nyctaginea*** (Michx.) MacMill.
	Molluginaceae
	Taxonomic references: Thulin et al. (2016).
N INV	***Glinus lotoides*** L.
N CAS	***Hypertelis cerviana*** (L.) Thulin
N INV	***Mollugo verticillata*** L.
	Montiaceae
N CAS	***Claytonia perfoliata*** Donn ex Willd.
	Didiereaceae
N CAS	***Portulacaria afra*** Jacq.
	Basellaceae
N INV	***Anredera cordifolia*** (Ten.) Steenis
	Talinaceae
N CAS	***Talinum paniculatum*** (Jacq.) Gaertn.
	Portulacaceae
N NAT	***Portulaca grandiflora*** Hook.
A CAS CLT	***Portulaca sativa*** Haw. – Parentage: Unknown.
N CAS	***Portulaca umbraticola*** Kunth

	Cactaceae
	Taxonomic references: Guiggi (2008, 2010, 2014); Hernández-Ledesma et al. (2015); *Opuntia* Mill. (incl. *Nopalea* Salm-Dyck) (Majure et al. 2012; Majure and Puente 2014).
N NAT	***Austrocylindropuntia cylindrica*** (Lam.) Backeb.
N INV	***Austrocylindropuntia subulata*** (Muehlenpf.) Backeb.
N NAT	***Cereus hildmannianus*** K.Schum.
N CAS	***Cleistocactus strausii*** (Heese) Backeb.
N CAS	***Consolea falcata*** (Ekman & Werderm.) F.M.Knuth
N CAS	***Cylindropuntia kleiniae*** (DC.) F.M.Knuth
N NAT	***Cylindropuntia spinosior*** (Engelm.) F.M.Knuth
N CAS	***Cylindropuntia tunicata*** (Lehm.) F.M.Knuth
N CAS	***Echinopsis oxygona*** (Link) Zucc. ex Pfeiff. & Otto
N CAS	***Hylocereus triangularis*** (L.) Britton & Rose
N NAT FER	***Hylocereus undatus*** (Haw.) Britton & Rose – Note: Feral and culton of the same species, *H. undatus* (Haw.) Britton & Rose (Mexico).
N CAS	***Lobivia silvestrii*** (Speg.) G.D.Rowley – Note: We do not agree with Hernández-Ledesma et al. (2015) in maintaining a large paraphyletic *Echinopsis* Zucc.
N CAS	***Mammillaria bocasana*** Poselg.
N NAT	***Mammillaria elongata*** DC. subsp. ***elongata***
N CAS	***Mammillaria polythele*** Mart. subsp. ***polythele***
N CAS	***Opuntia anacantha*** Speg.
N CAS	***Opuntia chlorotica*** Engelm. & J.M.Bigelow
N NAT	***Opuntia dejecta*** Salm-Dyck
N NAT	***Opuntia dillenii*** (Ker Gawl.) Haw.
N NAT	***Opuntia elata*** hort. Berol. ex Salm-Dyck
N NAT	***Opuntia elatior*** Mill.
N NAT	***Opuntia engelmannii*** Salm-Dyck ex Engelm.
N INV FER	***Opuntia ficus-indica*** (L.) Mill. – Note: Feral and culton possibly of the spiny morphotype of *O. ficus-indica* (L.) Mill., described as *O. amyclaea* Ten. (Mexico).
N INV	***Opuntia humifusa*** (Raf.) Raf.
N NAT	***Opuntia leucotricha*** DC.
N NAT	***Opuntia lindheimeri*** Engelm.
N NAT	***Opuntia microdasys*** (Lehm.) Pfeiff.
N NAT	***Opuntia monacantha*** Haw.
N INV	***Opuntia phaeacantha*** Engelm.
N CAS	***Opuntia pilifera*** F.A.C.Weber
N CAS	***Opuntia polyacantha*** Haw.
N NAT	***Opuntia robusta*** H.L.Wendl. ex Pfeiff.
N NAT	***Opuntia scheeri*** F.A.C.Weber
N NAT	***Opuntia spinulifera*** Salm-Dyck
N NAT	***Opuntia streptacantha*** Lem.
N INV	***Opuntia stricta*** (Haw.) Haw.
N NAT	***Opuntia tomentosa*** Salm-Dyck
N CAS	***Trichocereus spachianus*** (Lem.) Riccob. – Note: We do not agree with Hernández-Ledesma et al. (2015) in maintaining a large paraphyletic *Echinopsis* Zucc.
	Hydrangeaceae
N NAT	***Deutzia crenata*** Siebold & Zucc. – Note: For the identification of this species, see Ohba and Niu (2001).
N CAS	***Deutzia gracilis*** Siebold & Zucc.
N CAS	***Hydrangea macrophylla*** (Thunb.) Ser.
N NAT	***Hydrangea quercifolia*** W.Bartram
	Cornaceae
N CAS	***Cornus sericea*** L. subsp. ***sericea***
	Balsaminaceae
N INV	***Impatiens balfourii*** Hook.f.
N CAS	***Impatiens balsamina*** L.
N NAT	***Impatiens cristata*** Wall.
N INV	***Impatiens glandulifera*** Royle
N INV	***Impatiens parviflora*** DC.
N CAS	***Impatiens walleriana*** Hook.f.
	Polemoniaceae
N CAS	***Collomia linearis*** Nutt.
N CAS	***Phlox paniculata*** L.
	Ebenaceae
N CAS	***Diospyros kaki*** Thunb.
N NAT	***Diospyros lotus*** L.
N NAT	***Diospyros virginiana*** L.
	Primulaceae
N CAS	***Cyclamen persicum*** Mill.
N D	*Lysimachia maritima* (L.) Galasso, Banfi & Soldano
N CAS	***Primula florindae*** Kingdon-Ward
N CAS	***Primula vulgaris*** Huds. subsp. ***rubra*** (Sm.) Arcang.

	Actinidiaceae
N CAS	***Actinidia deliciosa*** (A.Chev.) C.F.Liang & A.R.Ferguson
	Ericaceae
N CAS	***Erica tetralix*** L.
	Garryaceae
N CAS	***Aucuba japonica*** Thunb.
	Rubiaceae
N CAS	***Galium humifusum*** M.Bieb.
N NAT	***Galium rubioides*** L. subsp. ***rubioides***
A NAT	***Rubia tinctorum*** L.
	Apocynaceae
N INV	***Araujia sericifera*** Brot. – Note: For the nomenclature of this species, see Forster and Bruyns (1992).
N NAT	***Asclepias curassavica*** L.
N INV	***Asclepias fruticosa*** L.
N NAT	***Asclepias physocarpa*** (E.Mey.) Schltr.
N NAT	***Asclepias syriaca*** L.
N CAS	***Asclepias tuberosa*** L.
N NAT	***Catharanthus roseus*** (L.) G.Don
N CAS	***Trachelospermum jasminoides*** (Lindl.) Lem.
	Heliotropiaceae
N NAT	***Heliotropium amplexicaule*** Vahl
N CAS	***Heliotropium arborescens*** L. – Note: For the nomenclature and the identification of this species, see Luebert et al. (2010).
N NAT	***Heliotropium curassavicum*** L.
	Namaceae
	Taxonomic references: Cecchi and Selvi (2014).
N NAT	***Wigandia caracasana*** Kunth
N NAT	***Wigandia kunthii*** Choisy
	Hydrophyllaceae
N NAT	***Phacelia tanacetifolia*** Benth.
	Boraginaceae
	Taxonomic references: *Adelocaryum* Brand and *Cynoglossum* L. (Hilger et al. 2015); *Iberodes* M.Serrano, R.Carbajal & S.Ortiz (Serrano et al. 2016).
N NC	***Adelocaryum coelestinum*** (Lindl.) Brand
N CAS	***Amsinckia calycina*** (Moris) Chater
N CAS	***Amsinckia lycopsoides*** (Lehm.) Lehm.
N NC	***Anchusa ochroleuca*** M.Bieb.
N NAT	***Brunnera macrophylla*** (Adams) I.M.Johnst.
N CAS	***Cynoglossum amabile*** Stapf & J.R.Drumm.
N NAT	***Echium candicans*** L.f.
N CAS	***Iberodes linifolia*** (L.) M.Serrano, R.Carbajal & S.Ortiz
N CAS	***Lappula marginata*** (M.Bieb.) Gürke
N NAT	***Lycopsis orientalis*** L.
N NC	***Melanortocarya obtusifolia*** (Willd.) Selvi, Bigazzi, Hilger & Papini
N NAT	***Nonea lutea*** (Desr.) DC.
N INV	***Nonea pulla*** (L.) DC.
N NAT	***Pentaglottis sempervirens*** (L.) Tausch ex L.H.Bailey
N CAS	***Symphytum asperum*** Lepech.
N CAS	***Symphytum orientale*** L.
N NAT	***Symphytum* ×*uplandicum*** Nyman – Parentage: *S. asperum* Lepech. × *S. officinale* L.
	Convolvulaceae
	Taxonomic references: *Convolvulus* L. (incl. *Calystegia* R.Br.) (Bartolucci et al. 2018).
N NC	***Convolvulus betonicifolius*** Mill. subsp. ***betonicifolius***
N NAT	***Convolvulus dubius*** J.L.Gilbert
N CAS	***Convolvulus farinosus*** L.
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 NAT	***Dichondra micrantha*** Urb.
N CAS CLT	***Ipomoea batatas*** (L.) Lam. – Note: Directly domesticated from *I. batatas* (L.) Lam. f. *trifida* Moldenke (Hirst 2016).
N NAT	***Ipomoea cairica*** (L.) Sweet
N CAS	***Ipomoea coccinea*** L.
N INV	***Ipomoea indica*** (Burm.) Merr.
N CAS	***Ipomoea pandurata*** (L.) G.Mey.
N INV	***Ipomoea purpurea*** (L.) Roth
N CAS	***Ipomoea tricolor*** Cav.
N CAS	***Ipomoea triloba*** L.

	Solanaceae
N CAS CLT	***Capsicum annuum*** L. – Note: Directly domesticated from the same species, *C. annuum* L. (Mexico).
N INV	***Cestrum parqui*** L'Hér.
N NAT	***Datura ferox*** L.
N INV	***Datura inoxia*** Mill.
N CAS	***Datura quercifolia*** Kunth
N INV	***Datura stramonium*** L.
N INV	***Datura wrightii*** Regel – Note: For the taxonomy of this species, see Verloove et al. (2010).
N CAS	***Jaborosa integrifolia*** Lam.
N NAT	***Lycianthes rantonnetii*** (Carrière) Bitter
N CAS	***Lycium afrum*** L.
N NAT	***Lycium barbarum*** L.
N NAT	***Lycium chinense*** Mill.
N NAT	***Lycium ferocissimum*** Miers
N NAT	***Nicandra physalodes*** (L.) Gaertn.
N CAS	***Nicotiana alata*** Link & Otto
N INV	***Nicotiana glauca*** Graham
N CAS	***Nicotiana rustica*** L.
N CAS CLT	***Nicotiana ×sanderae*** W.Watson – Parentage: *N. alata* Link & Otto × *N. forgetiana* Hemsl. (Clarkson et al. 2004).
N CAS	***Nicotiana suaveolens*** Lehm.
N CAS	***Nicotiana sylvestris*** Speg.
N CAS CLT	***Nicotiana tabacum*** L. – Parentage: *N. sylvestris* Speg. × *N. tomentosiformis* Goodsp. (Clarkson et al. 2004) (SE-Bolivia/NW-Argentine).
N NAT FER	***Petunia atkinsiana*** (Sweet) D.Don ex W.H.Baxter – Parentage: *P. axillaris* (Lam.) Britton, Sterns & Poggenb. × *P. integrifolia* (Hook.) Schinz & Thell. (= *P. violacea* Lindl., nom. illeg.).
N CAS	***Petunia axillaris*** (Lam.) Britton, Sterns & Poggenb.
N CAS	***Physalis angulata*** L.
N CAS	***Physalis ixocarpa*** Brot. ex Hornem.
N CAS	***Physalis nicandroides*** Schltdl.
N CAS	***Physalis peruviana*** L.
N NAT	***Physalis pubescens*** L.
N NAT	***Physalis virginiana*** Mill.
N CAS	***Physalis viscosa*** L.
N INV	***Salpichroa origanifolia*** (Lam.) Baill.
N CAS	***Solandra maxima*** (Sessé & Moc.) P.S.Green
N CAS	***Solanum aviculare*** G.Forst.
N NAT	***Solanum bonariense*** L.
N NAT	***Solanum carolinense*** L.
N INV	***Solanum chenopodioides*** Lam.
N INV	***Solanum elaeagnifolium*** Cav.
N CAS	***Solanum heterodoxum*** Dunal
N D	*Solanum laciniatum* Aiton
N NAT	***Solanum lanceolatum*** Cav. – Note: For the taxonomy of this species, see Cambria et al. (2015).
N INV	***Solanum linnaeanum*** Hepper & P.-M.L.Jaeger
N CAS CLT	***Solanum lycopersicum*** L. – Note: Directly domesticated from *S. pimpinellifolium* L. (Ecuador/Peru).
N CAS	***Solanum mauritianum*** Scop.
A CAS CLT	***Solanum melongena*** L. subsp. ***melongena*** – Note: Directly domesticated from *S. melongena* L. subsp. *insanum* (L.) Banfi, Galasso & Bartolucci (SE-Asia) (Knapp et al. 2013).
N NAT	***Solanum physalifolium*** Rusby
N NAT	***Solanum pseudocapsicum*** L.
N NAT	***Solanum rostratum*** Dunal
N CAS	***Solanum sarrachoides*** Sendtn.
N NAT	***Solanum seaforthianum*** Andrews
N INV	***Solanum sisymbriifolium*** Lam.
N CAS	***Solanum triflorum*** Nutt.
N CAS CLT	***Solanum tuberosum*** L. – Note: Directly domesticated from *S. bukasovii* Juz. ex Rybin (*S. brevicaule* complex) (northern part of the distribution area: Ecuadorian and Bolivian Andes).
A NAT	***Withania somnifera*** (L.) Dunal
	Oleaceae
	Taxonomic references: *Chrysojasminum* Banfi (Banfi 2014).
N CAS	***Chrysojasminum humile*** (L.) Banfi
N CAS	***Forsythia intermedia*** Zabel
N CAS	***Forsythia suspensa*** (Thunb.) Vahl
N CAS	***Forsythia viridissima*** Lindl.
N NAT	***Jasminum mesnyi*** Hance
N NAT	***Jasminum nudiflorum*** Lindl.
A NAT	***Jasminum officinale*** L.
N CAS	***Ligustrum japonicum*** Thunb.
N INV	***Ligustrum lucidum*** W.T.Aiton
N INV	***Ligustrum ovalifolium*** Hassk.
N INV	***Ligustrum sinense*** Lour.
N NAT	***Syringa vulgaris*** L.
	Gesneriaceae
N CAS	***Haberlea rhodopensis*** Friv.
	Plantaginaceae
A NAT	***Antirrhinum majus*** L. subsp. ***majus***

N CAS	***Collinsia heterophylla*** Buist ex Graham
N CAS	***Digitalis lanata*** Ehrh. subsp. ***lanata***
N NAT	***Limnophila ludoviciana*** Thieret
N CAS	***Linaria maroccana*** Hook.f.
N D	*Plantago loeflingii* L.
N EX	***Plantago patagonica*** Jacq.
N CAS	***Plantago virginica*** L.
N CAS	***Russelia equisetiformis*** Schltdl. & Cham.
N INV	***Veronica filiformis*** Sm.
N NAT	***Veronica peregrina*** L.
N INV	***Veronica persica*** Poir.
	Scrophulariaceae
	Taxonomic references: *Buddleja* L. (Chau et al. 2017); *Myoporum* Sol. ex G.Forst. (Chinnock 2007).
N INV	***Buddleja davidii*** Franch.
N CAS	***Buddleja madagascariensis*** Lam.
N INV	***Myoporum insulare*** R.Br.
N NAT	***Myoporum laetum*** G.Forst.
N NAT	***Myoporum tetrandrum*** (Labill.) Domin
N CAS	***Verbascum speciosum*** Schrad. subsp. ***speciosum***
N NAT	***Verbascum virgatum*** Stokes
	Linderniaceae
N INV	***Lindernia dubia*** (L.) Pennell – Note: For the taxonomy of this species, see Lewis (2000).
	Martyniaceae
N CAS	***Proboscidea louisiana*** (Mill.) Thell.
	Pedaliaceae
A CAS CLT	***Sesamum indicum*** L. – Note: Directly domesticated from *S. mulayanum* N.C.Nair (India-SE-Asia).
	Acanthaceae
N CAS	***Acanthus arboreus*** Forssk.
N D	*Justicia adhatoda* L.
N CAS	***Ruellia simplex*** C.Wright
	Bignoniaceae
N NAT	***Campsis radicans*** (L.) Bureau
N CAS	***Catalpa bignonioides*** Walter – Note: This species is often confused with *C. speciosa* Teas and *Catalpa ovata* G.Don.
N NAT	***Catalpa ovata*** G.Don
N NAT	***Catalpa speciosa*** Teas
N CAS	***Dolichandra unguis-cati*** (L.) L.G.Lohmann
N CAS	***Jacaranda mimosifolia*** D.Don
N CAS	***Tecomaria capensis*** (Thunb.) Spach
	Verbenaceae
	Taxonomic references: *Lantana* L. (Sanders 2012); *Verbena* L. (Nesom 2010; Verloove 2011).
N CAS	***Aloysia citrodora*** Paláu
N CAS	***Glandularia bipinnatifida*** (Schauer) Nutt.
N CAS CLT	***Glandularia hybrida*** (Groenland & Rümpler) G.L.Nesom & Pruski – Parentage: Unknown.
N NC	***Glandularia platensis*** (Spreng.) Schnack & Covas
N CAS	***Glandularia tenera*** (Spreng.) Cabrera
N NAT	***Lantana camara*** L. subsp. ***aculeata*** (L.) R.W.Sanders
N CAS	***Lantana camara*** L. subsp. ***glandulosissima*** (Hayek) R.W.Sanders
N CAS	***Lantana depressa*** Small
N CAS	***Lantana montevidensis*** (Spreng.) Briq.
N CAS	***Lippia alba*** (Mill.) N.E.Br. ex Britton & P.Wilson
N NAT	***Phyla canescens*** (Kunth) Greene
N NAT	***Phyla nodiflora*** (L.) Greene
N NAT	***Verbena bonariensis*** L.
N NAT	***Verbena brasiliensis*** Vell.
N NAT	***Verbena incompta*** P.W.Michael
N CAS	***Verbena rigida*** Spreng.
	Lamiaceae
	Taxonomic references: *Salvia* L. (incl. *Perovskia* Kar.) (Drew et al. 2017); *Stachys* L. (incl. *Sideritis* L.) (Bartolucci et al. 2014; Galasso et al. 2016b).
N NAT	***Ballota pseudodictamnus*** (L.) Benth. subsp. ***pseudodictamnus***
N CAS CLT	***Caryopteris ×clandonensis*** A.Simmonds ex C.H.Curtis – Parentage: *C. incana* (Thunb. ex Houtt.) Miq. × *C. mongholica* Bunge (Great Britain).
N CAS	***Clerodendrum bungei*** Steud.
N CAS	***Clerodendrum trichotomum*** Thunb.
N CAS	***Dracocephalum moldavica*** L.
N CAS?	***Dracocephalum parviflorum*** Nutt.
N NAT	***Elsholtzia ciliata*** (Thunb.) Hyl.
N NAT	***Lamium galeobdolon*** (L.) subsp. ***argentatum*** (Smejkal) J.Duvign.
N CAS	***Lavandula dentata*** L.
A NAT	***Leonurus cardiaca*** L.
N NAT	***Leonurus quinquelobatus*** Gilib.
N NAT	***Lycopus lucidus*** Turcz. ex Benth.

N CAS	***Marrubium peregrinum*** L.
N CAS	***Nepeta racemosa*** Lam. subsp. ***racemosa***
A CAS	***Ocimum basilicum*** L.
A NAT	***Origanum majorana*** L.
N CAS	***Perilla frutescens*** (L.) Britton
N CAS	***Physostegia virginiana*** (L.) Benth.
N CAS	***Plectranthus scutellarioides*** (L.) R.Br.
N CAS	***Salvia abrotanoides*** (Kar.) Sytsma × ***S. yangii*** B.T.Drew
N CAS	***Salvia amplexicaulis*** Lam.
N NC	***Salvia canariensis*** L.
N CAS	***Salvia hispanica*** L.
N NAT	***Salvia leucantha*** Cav.
N CAS	***Salvia microphylla*** Kunth
N NC	***Salvia napifolia*** Jacq.
N NC	***Salvia pinnata*** L.
N CAS	***Salvia reflexa*** Hornem.
N CAS	***Salvia splendens*** Sellow ex Wied-Neuw.
A NAT	***Satureja hortensis*** L.
N CAS	***Scutellaria albida*** L. subsp. ***albida***
N NAT	***Stachys byzantina*** K.Koch
N NC	***Stachys perfoliata*** (L.) Peruzzi, Bartolucci & Soldano
N CAS	***Stachys talbotii*** Bartolucci & Galasso
N CAS	***Teucrium hircanicum*** L.
N NAT	***Ziziphora capitata*** L. subsp. ***capitata***
	Mazaceae
N NAT	***Mazus miquelii*** Makino
N NAT	***Mazus pumilus*** (Burm.f.) Steenis
	Phrymaceae
	Taxonomic references: *Erythranthe* Spach (Barker et al. 2012).
N NAT	***Erythranthe cuprea*** (J.Veitch & J.J.Veitch ex Dombrain) G.L.Nesom
N NAT	***Erythranthe guttata*** (DC.) G.L.Nesom
N CAS	***Erythranthe moschata*** (Douglas ex Lindl.) G.L.Nesom – Note: For the taxonomy of this species, see Nesom (2017).
N CAS	***Mimulus ringens*** L.
	Paulowniaceae
N INV	***Paulownia tomentosa*** (Thunb.) Steud.
	Campanulaceae
N D	*Campanula carpatica* Jacq.
N CAS	***Campanula portenschlagiana*** Schult.
N NAT	***Campanula poscharskyana*** Degen
N CAS	***Lobelia erinus*** L.
N CAS	***Lobelia laxiflora*** Kunth subsp. ***laxiflora***
N CAS	***Platycodon grandiflorus*** (Jacq.) A.DC.
N NAT	***Trachelium caeruleum*** L. subsp. ***caeruleum***
	Asteraceae
	Taxonomic references: *Bidens* L. (incl. *Coreopsis* L., *Cosmos* Cav.) (Banfi et al. 2018); *Gamochaeta* Wedd. (Urtubey et al. 2016); *Gnaphalium* L. (incl. *Pseudognaphalium* Kirp.) (Nie et al. 2016); *Helichrysum* Mill. (incl. *Anaphalis* DC. and *Laphangium* (Hilliard & B.L.Burtt) Tzvelev) (Galbany-Casals et al. 2014; Nie et al. 2016); *Pentanema* (Gutiérrez-Larruscain et al. 2018);*Soliva* Ruiz & Pav. (Webb 1986; Watson 2006); *Xanthium* L. subg. *Xanthium* (Jeanmonod 1998).
N NAT	***Achillea filipendulina*** Lam.
N NAT	***Ageratina adenophora*** (Spreng.) R.M.King & H.Rob.
N NAT	***Ageratina altissima*** (L.) R.M.King & H.Rob.
N CAS	***Ageratina ligustrina*** (DC.) R.M.King & H.Rob.
N CAS	***Ageratum conyzoides*** L.
N CAS	***Ageratum houstonianum*** Mill.
N INV	***Ambrosia artemisiifolia*** L.
N INV	***Ambrosia psilostachya*** DC.
N NAT	***Ambrosia tenuifolia*** Spreng.
N INV	***Ambrosia trifida*** L.
N CAS	***Anthemis ruthenica*** M.Bieb.
N NAT	***Arctotheca calendula*** (L.) Levyns
N CAS	***Argyranthemum frutescens*** (L.) Sch.Bip. subsp. ***frutescens***
A CAS	***Artemisia abrotanum*** L.
N INV	***Artemisia annua*** L.
N CAS	***Artemisia austriaca*** Jacq.
N CAS	***Artemisia biennis*** Willd.
A CAS	***Artemisia dracunculus*** L.
A CAS	***Artemisia pontica*** L.
N NAT	***Artemisia scoparia*** Waldst. & Kit.
N CAS	***Artemisia tournefortiana*** Rchb.
N INV	***Artemisia verlotiorum*** Lamotte
N CAS	***Aster ageratoides*** Turcz. – Note: For the taxonomy of this species, see Ito and Soejima (1995).
N INV	***Baccharis halimifolia*** L.
N NAT	***Bidens aurea*** (Aiton) Sherff

N INV	***Bidens bipinnata*** L.
N INV	***Bidens connata*** Muhl. ex Willd.
N CAS	***Bidens formosa*** (Bonato) Sch.Bip.
N INV	***Bidens frondosa*** L.
N NAT	***Bidens lanceolata*** (L.) Banfi, Galasso & Bartolucci
N NAT	***Bidens pilosa*** L.
N CAS	***Bidens radiata*** Thuill.
N INV	***Bidens subalternans*** DC.
N CAS	***Bidens tinctoria*** (Nutt.) Baill. ex Daydon
N CAS	***Bidens triplinervia*** Kunth
N NAT	***Bidens vulgata*** Greene
A NAT FER	***Calendula officinalis*** L. – Note: Feral of the same species, *C. officinalis* L., in turn directly domesticated from *C. suffruticosa* Vahl subsp. *fulgida* (Raf.) Guadagno (N-Africa).
N CAS	***Callistephus chinensis*** (L.) Nees
N CAS	***Carduus hamulosus*** Ehrh. subsp. ***hamulosus***
A CAS	***Carthamus tinctorius*** L.
N NAT	***Centaurea acaulis*** L.
N D	*Centaurea babylonica* (L.) L.
A NAT	***Centaurea cyanus*** L.
N CAS	***Centaurea decipiens*** Thuill.
N NC	***Centaurea depressa*** M.Bieb.
N CAS	***Centaurea diffusa*** Lam.
N INV	***Centaurea diluta*** Aiton
N CAS	***Centaurea hyalolepis*** Boiss. subsp. ***hyalolepis***
N NC	***Centaurea iberica*** Spreng. subsp. ***iberica***
N NC	***Centaurea kanitziana*** Janka ex D.Brândză
N CAS	***Centaurea orientalis*** L.
N NC	***Centaurea phrygia*** L. subsp. ***phrygia***
N CAS	***Centaurea pullata*** L. subsp. ***pullata***
N NC	***Centaurea ragusina*** L. subsp. ***ragusina***
N CAS	***Centaurea salonitana*** Vis.
N CAS	***Chamaemelum nobile*** (L.) All.
N NC	***Chrysanthemoides monilifera*** (L.) Norl.
A NAT FER	***Cichorium endivia*** L. subsp. ***endivia*** – Note: Feral of the same taxon, *C. endivia* L. subsp. *endivia*, in turn directly domesticated from *C. endivia* L. subsp. *pumilum* (Jacq.) Cout. (Egypt-Middle East).
N NAT	***Cotula australis*** (Sieber ex Spreng.) Hook.f.
N INV	***Cotula coronopifolia*** L.
N NAT	***Crepis dioscoridis*** L.
T A NAT	***Crepis foetida*** L. subsp. ***rhoeadifolia*** (M.Bieb.) Čelak. – Note: This species is doubtfully distinct from *C. foetida* L. subsp. *foetida*.
N INV	***Crepis sancta*** (L.) Bornm. subsp. ***nemausensis*** (P.Fourn.) Babc.
A CAS CLT	***Cynara cardunculus*** L. subsp. ***scolymus*** (L.) Hegi – Note: Directly domesticated from *C. cardunculus* L. subsp. *cardunculus* (Sicilia-N-Africa) (Gatto et al. 2013).
N NAT	***Delairea odorata*** Lem.
N NAT	***Dichrocephala integrifolia*** (L.f.) Kuntze
N CAS	***Echinacea purpurea*** (L.) Moench
N INV	***Eclipta prostrata*** (L.) L.
N INV	***Erigeron annuus*** (L.) Desf. – Note: According to Frey et al. (2003), *E. annuus* (L.) Desf. subsp. *septentrionalis* (Fernald & Wiegand) Wagenitz falls within the morphological variability of *E. annuus* s.str., and *E. strigosus* Mühl. ex Willd. do not occour in Europe.
N INV	***Erigeron bonariensis*** L.
N INV	***Erigeron canadensis*** L.
T N D	*Erigeron floribundus* (Kunth) Sch.Bip.
N INV	***Erigeron karvinskianus*** DC.
N INV	***Erigeron philadelphicus*** L.
N INV	***Erigeron sumatrensis*** Retz.
N CAS	***Eriocephalus africanus*** L.
N NAT	***Euthamia graminifolia*** (L.) Nutt.
N CAS CLT	***Gaillardia*** ×***grandiflora*** Van Houtte – Parentage: *G. aristata* Pursh × *G. pulchella* Foug.
N INV	***Galinsoga parviflora*** Cav.
N INV	***Galinsoga quadriradiata*** Ruiz & Pav.
N NAT	***Gamochaeta antillana*** (Urb.) Anderb.
N NAT	***Gamochaeta argyrinea*** G.L.Nesom
N NAT	***Gamochaeta coarctata*** (Willd.) Kerguélen
N NAT	***Gamochaeta pensylvanica*** (Willd.) Cabrera
N CAS	***Gazania linearis*** (Thumb.) Druce
N NAT	***Gazania rigens*** (L.) Gaertn.
N NAT	***Gnaphalium undulatum*** L. Hilliard & B.L.Burtt
N CAS	***Grindelia ciliata*** (Nutt.) Spreng.
N CAS	***Grindelia hirsutula*** Hook. & Arn.
N CAS	***Grindelia squarrosa*** (Pursh) Dunal
N NAT	***Guizotia abyssinica*** (L.f.) Cass.
N NAT	***Gymnocoronis spilanthoides*** (D.Don ex Hook. & Arn.) DC.
N CAS	***Helenium amarum*** (Raf.) H.Rock
N CAS CLT	***Helianthus annuus*** L. subsp. ***annuus*** – Note: Directly domesticated from *H. annuus* L. subsp. *petiolaris* (Nutt.) Anashch. (central E-USA).
N NC	***Helianthus debilis*** Nutt. subsp. ***cucumerifolius*** (Torr. & A.Gray) Heiser
N CAS	***Helianthus decapetalus*** L.
N NAT	***Helianthus*** ×***laetiflorus*** Pers. – Parentage: *H. tuberosus* L. × *H. pauciflorus* Nutt.
N D	*Helianthus* ×*multiflorus* L. nothosubsp. *multiflorus* – Parentage: *H. annuus* L. subsp. *annuus* × *H. decapetalus* L.
N NAT	***Helianthus pauciflorus*** Nutt.

N INV	***Helianthus tuberosus*** L.
N CAS	***Helichrysum margaritaceum*** (L.) Moench
T N CAS	***Heliopsis helianthoides*** (L.) Sweet subsp. ***scabra*** (Dunal) T.R.Fisher – Note: This species is doubtfully distinct from *H. helianthoides* (L.) Sweet subsp. *helianthoides*.
N CAS	***Kleinia anteuphorbium*** (L.) Haw.
N CAS	***Kleinia mandraliscae*** Tineo
N CAS	***Kleinia neriifolia*** Haw.
T N CAS	***Lactuca macrophylla*** (Willd.) A.Gray subsp. ***uralensis*** (Rouy) N.Kilian & Greuter – Note: This subspecies is doubtfully distinct from *L. macrophylla* (Willd.) A.Gray subsp. *macrophylla*. For the taxonomy of this species, see Kilian et al. (2017).
A CAS CLT	***Lactuca sativa*** L. subsp. ***sativa*** – Note: Directly domesticated from *L. sativa* L. subsp. *serriola* (L.) Galasso, Banfi, Bartolucci & Ardenghi (Egypt).
N NAT	***Lapsana communis*** L. subsp. ***intermedia*** (M.Bieb.) Hayek
N CAS CLT	***Leucanthemum*** ×***superbum*** (Bergmans ex J.W.Ingram) D.H.Kent – Parentage: *L.* cf. *ircutianum* DC. subsp. *ircutianum* (Europe) × *L. maximum* (Ramond) DC. (Europe) → *L. lacustre* (Brot.) Samp. (W-Europe) → *L. nipponicum* Franch. ex Maxim. (≡ *Nipponanthemum nipponicum* (Franch. ex Maxim.) Kitam., Japan).
N INV	***Matricaria discoidea*** DC. subsp. ***discoidea***
N CAS	***Osteospermum barberae*** (Harv.) Norl.
N CAS	***Osteospermum ecklonis*** (DC.) Norl. (L.) D.Gut.Larr., Santos-Vicente, Anderb., E.Rico & M.M.Mart.Ort.
N CAS	***Pentanema germanicum***
N CAS	***Picris rhagadioloides*** (L.) Desf.
N CAS	***Ratibida pinnata*** (Vent.) Barnhart
N CAS	***Rhaponticum repens*** (L.) Hidalgo
N NAT	***Roldana petasitis*** (Sims) H.Rob. & Brettell
N NAT	***Rudbeckia fulgida*** Aiton
N NAT	***Rudbeckia hirta*** L.
N NAT	***Rudbeckia laciniata*** L.
N NAT	***Rudbeckia triloba*** L.
N NAT	***Santolina chamaecyparissus*** L.
N NAT	***Santolina virens*** Mill.
N INV	***Senecio angulatus*** L.f.
N CAS	***Senecio crassiflorus*** (Poir.) DC.
N CAS	***Senecio deltoideus*** Less.
N INV	***Senecio inaequidens*** DC.
N CAS	***Senecio leucanthemifolius*** Poir. subsp. ***vernalis*** (Waldst. & Kit.) Greuter
N NAT	***Senecio pterophorus*** DC. – Note: For the identification of this species, see Verloove et al. (2007).
N NAT	***Sigesbeckia orientalis*** L.
N NAT	***Silphium perfoliatum*** L.
N INV	***Solidago canadensis*** L.
N INV	***Solidago gigantea*** Aiton
N NAT	***Soliva sessilis*** Ruiz & Pav.
N NC	***Sphagneticola calendulacea*** (L.) Pruski
N CAS	***Stevia rebaudiana*** (Bertoni) Bertoni
N CAS	***Symphyotrichum ericoides*** (L.) G.L.Nesom
N CAS	***Symphyotrichum laeve*** (L.) Á.Löve & D.Löve
N INV	***Symphyotrichum lanceolatum*** (Willd.) G.L.Nesom
N NAT	***Symphyotrichum lateriflorum*** (L.) Á.Löve & D.Löve
N NAT	***Symphyotrichum novae-angliae*** (L.) G.L.Nesom
N NAT	***Symphyotrichum novi-belgii*** (L.) G.L.Nesom
N D	*Symphyotrichum ontarionis* (Wiegand) G.L.Nesom – Note: According to Dirkse et al. (2014), the name *S. parviflorum* (Nees) Greuter, neither cited in *Flora of North America* (Brouillet et al. 2006) nor yet typified, is a synonym of *S. ontarionis*.
N NAT	***Symphyotrichum pilosum*** (Willd.) G.L.Nesom
T N NAT	***Symphyotrichum*** ×***salignum*** (Willd.) G.L.Nesom – Parentage: *S. lanceolatum* (Willd.) G.L.Nesom × *S. novi-belgii* (L.) G.L.Nesom.
N INV	***Symphyotrichum squamatum*** (Spreng.) G.L.Nesom
N CAS	***Symphyotrichum*** ×***versicolor*** (Willd.) G.L.Nesom – Parentage: *S. laeve* (L.) Á.Löve & D.Löve × *S. novi-belgii* (L.) G.L.Nesom.
N CAS	***Tagetes erecta*** L.
N NAT	***Tagetes minuta*** L.
A CAS	***Tanacetum balsamita*** L.
N CAS	***Tanacetum cinerariifolium*** (Trevir.) Sch.Bip.
N CAS	***Tanacetum macrophyllum*** (Waldst. & Kit.) Sch.Bip.
N NAT	***Telekia speciosa*** (Schreb.) Baumg.
T N NC	***Xanthium ambrosioides*** Hook. & Arn. – Note: This species is doubtfully distinct from *X. spinosum* L.
T N INV	***Xanthium italicum*** Moretti – Note: This species is doubtfully distinct from *X. orientale* L.
N D	*Xanthium orientale* L.
N INV	***Xanthium spinosum*** L.
N CAS	***Xeranthemum annuum*** L.
N CAS	***Xerochrysum bracteatum*** (Vent.) Tzvelev
N CAS	***Youngia japonica*** (L.) DC. subsp. ***japonica***
N CAS	***Zinnia elegans*** Jacq.
	Viburnaceae
N CAS	***Viburnum carlesii*** Hemsl.
N CAS	***Viburnum rhytidophyllum*** Hemsl.
	Diervillaceae
N CAS	***Weigela florida*** (Bunge) A.DC.
	Caprifoliaceae
N NAT	***Leycesteria formosa*** Wall.
N CAS	***Lonicera biflora*** Desf.

N NAT	***Lonicera fragrantissima*** Lindl. & Paxton
N CAS	***Lonicera involucrata*** (Richardson) Banks ex Spreng.
N INV	***Lonicera japonica*** Thunb.
N CAS	***Lonicera ligustrina*** Wall. subsp. ***yunnanensis*** (Franch.) P.S.Hsu & H.J.Wang
N NAT	***Lonicera pileata*** Oliv.
N CAS	***Lonicera tatarica*** L.
N NAT	***Symphoricarpos albus*** (L.) S.F.Blake
	Linnaeaceae
N CAS	***Kolkwitzia amabilis*** Graebn.
	Dipsacaceae
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 *D. fullonum* L. subsp. *fullonum*.
N NAT	***Dipsacus laciniatus*** L.
N NC	***Lomelosia prolifera*** (L.) Greuter & Burdet
N NAT	***Pterocephalus plumosus*** (L.) Coult.
	Valerianaceae
N NAT	***Centranthus macrosiphon*** Boiss.
N CAS	***Valeriana phu*** L.
	Pittosporaceae
N NAT	***Pittosporum tobira*** (Thunb.) W.T.Aiton
N CAS	***Pittosporum undulatum*** Vent.
N CAS	***Sollya heterophylla*** Lindl.
	Araliaceae
	Taxonomic references: *Hedera* L. (McAllister and Rutherford 1997; Ackerfield and Wen 2002; Marshall et al. 2017).
N CAS	***Aralia spinosa*** L.
N CAS	***Fatsia japonica*** (Thunb.) Decne. & Planch.
N NAT	***Hedera algeriensis*** Hibberd
N NAT	***Hedera canariensis*** Willd.
N NAT	***Hedera hibernica*** (G.Kirchn.) Bean
N CAS	***Hedera*** ×***sepulcralis*** R.H.Marshall & McAll. – Parentage: *H. algeriensis* Hibberd × *H. hibernica* (G.Kirchn.) Bean.
N CAS	***Hydrocotyle bonariensis*** Lam. – Note: *H. verticillata* Thumb. is commonly traded, and it differs from *H. bonariensis* for the inflorescences with overlapping whorls rather than single umbrellas.
N INV	***Hydrocotyle ranunculoides*** L.f.
N NAT	***Hydrocotyle sibthorpioides*** Lam.
N CAS	***Tetrapanax papyrifer*** (Hook.) K.Koch
	Apiaceae
A CAS	***Anethum graveolens*** L.
A CAS	***Angelica archangelica*** L. subsp. ***archangelica***
A NAT	***Anthriscus cerefolium*** (L.) Hoffm.
A NAT	***Bupleurum rotundifolium*** L.
N NAT	***Chaerophyllum bulbosum*** L. subsp. ***bulbosum***
A NAT	***Coriandrum sativum*** L.
N NAT	***Cyclospermum leptophyllum*** (Pers.) Sprague ex Britton & P.Wilson
A CAS CLT	***Daucus carota*** L. subsp. ***sativus*** (Hoffm.) Schübl. & G.Martens – Note: Directly domesticated from *D. carota* L. subsp. *carota* (E-Mediterranean).
N NC	***Eryngium creticum*** Lam.
N CAS	***Eryngium planum*** L.
N INV	***Heracleum mantegazzianum*** Sommier & Levier
A CAS	***Levisticum officinale*** W.D.J.Koch
N NAT	***Oenanthe javanica*** (Blume) DC.
A CAS	***Petroselinum crispum*** (Mill.) Fuss
A CAS	***Pimpinella anisum*** L.
A CAS	***Sium sisarum*** L.
N CAS	***Torilis ucranica*** Spreng.

Discussion

The vascular flora alien to Italy includes 1597 species, subspecies, and hybrids; according to DAISIE (2017), higher numbers in Europe can be found only in Belgium (2801 taxa) and Great Britain (1834 taxa). Considering the 791 naturalized and invasive neophytes occurring in Italy, only the United Kingdom (857 taxa; Pyšek et al. 2009) shows higher numbers.

More than half of the invasive alien species of Union concern (14 out of 23) occur in Italy; most of them (13) are invasive also at national scale (Table 5) but, despite this, they are reported as invasive only in a limited number of regions, i.e. no more than four regions per taxon (Appendix S2).

The neophytes constitute 90.17% of the Italian alien flora. The overall percentage of alien species over the native Italian flora (19.49%) is similar to that of the Italian endemic taxa (20.84%, see Bartolucci et al. 2018). With respect to the statistics of the previous inventory of the alien flora to Italy (Celesti-Grapow et al. 2010), we found an increase in 56.11% of non-native taxa. Although various natural causes for this trend certainly exist, the growing awareness toward biological invasions has clearly contributed to their closer description, as evidenced by the great flow of new records in scientific publications (see also "Introduction").

A comparison with data published in Celesti-Grapow et al. (2010) reveals that Sardegna (121.66%), Puglia (112.35%), Toscana (88.31%), Sicilia (70.70%), and Emilia-Romagna (61.26%) were

interested by the highest increase in alien records in the last eight years.

In recent years, the knowledge of the Italian alien flora took full advantage from the growing interest on the general topic of biological invasions (e.g., Celesti-Grapow et al. 2016, 2017). The number of taxa not confirmed in recent times, doubtfully occurring in Italy, or with still undefined regional distribution and invasion status is in fact relatively low (see Table 2). On the other hand, the data resulting from the comparison with other European countries and with the previous checklist of the Italian non-native flora (Celesti-Grapow et al. 2010) disclose a dramatic increase in alien plant invasion in Italy. The amount of data provided by the present inventory establishes a solid starting point for thoroughly investigating this phenomenon. Impacts on native and endemic taxa, habitats, and human activities, introduction pathways, taxonomic diversity, geographic origin, and temporal trends, traditionally examined in the context of alien plant invasion in Europe (Verloove 2006; Lambdon et al. 2008; Pyšek et al. 2009), need to be explored within a more specific research framework for Italy.

Acknowledgments

We gratefully acknowledge collegues and friends who provided distribution, nomenclatural and taxonomic advices: Acta Plantarum forum, Michele Adorni, Aldo Antonietti, Pierfranco Arrigoni, Loris Bagli, Elena Barni, Rossano Bolpagni, Fausto Bonafede, Gianmaria Bonari, Giuseppe Brundu, Eugenia Bugni, Vito Buono, Mario Calbi, Maretta Colasante, Marco D'Antraccoli, Giuseppe D'Auria, Roberto Dellavedova, Giorgio Faggi, Umberto Ferrando, Giulio Ferretti, Filiberto Fiandri, Bruno Gallino, Maria Letizia Gargano, Giovanni Gestri, Luigi Ghillani, Riccardo Guarino, Matteo Gualmini, Laura Guglielmone, Lorenzo Lastrucci, Wolfgang Licht, Umberto Lodesani, Daniela Longo, Fabrizio Martini, Silviana Mauri, Enzo Meneguzzo, Anna Maria Mercuri, Marco Merli, Nicola Merloni, Sergio Montanari, Villiam Morelli, Paola Palazzolo, Guglielmo Pandolfo, Roberto Pascal†, Marziano Pascale, Mauro Pellizzari, Enrico V. Perrino, Franco Picco, Filippo Piccoli, Annalaura Pistarino, Enrico Romani, Walter Karl Rottensteiner, Daniele Saiani, Claudio Santini, Fabio Semprini, Consolata Siniscalco, Maurizio Sirotti, Gabriella Sonnante, Pier Giuseppe Varalda, Giuseppe Venturella, Filip Verloove, Marisa Vidali, Michele Vignodelli, Milena Villa.

Disclosure statement

No potential conflict of interest was reported by the authors.

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