

## Catalogue of alien plants of the Czech Republic (2nd edition): checklist update, taxonomic diversity and invasion patterns

Nepůvodní flóra České republiky: aktualizace seznamu druhů, taxonomická diverzita a průběh invazí

Petr Pyšek<sup>1,2</sup>, Jiří Danihelka<sup>1,3</sup>, Jiří Sádlo<sup>1</sup>, Jindřich Chrtěk Jr.<sup>1,4</sup>, Milan Chytrý<sup>3</sup>, Vojtěch Jarošík<sup>2,1</sup>, Zdeněk Kaplan<sup>1</sup>, František Krahulec<sup>1</sup>, Lenka Moravcová<sup>1</sup>, Jan Pergl<sup>1</sup>, Kateřina Štajerová<sup>1,2</sup> & Lubomír Tichý<sup>3</sup>

<sup>1</sup>Institute of Botany, Academy of Sciences of the Czech Republic, CZ-252 43 Průhonice, Czech Republic, e-mail: pysek@ibot.cas.cz, chrtek@ibot.cas.cz, kaplan@ibot.cas.cz, krahulec@ibot.cas.cz, moravcova@ibot.cas.cz, pergl@ibot.cas.cz, stajerova@ibot.cas.cz;

<sup>2</sup>Department of Ecology, Faculty of Science, Charles University in Prague, Viničná 7, CZ-128 44 Prague, Czech Republic, e-mail: jarosik@cesnet.cz; <sup>3</sup>Department of Botany and Zoology, Masaryk University, Kotlářská 2, CZ-611 37 Brno, Czech Republic, e-mail: danihel@sci.muni.cz, chytry@sci.muni.cz, tichy@sci.muni.cz; <sup>4</sup>Department of Botany, Faculty of Science, Charles University in Prague, Benátská 2, CZ-128 01 Prague, Czech Republic

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A complete list of all alien taxa ever recorded in the flora of the Czech Republic is presented as an update of the original checklist published in 2002. New data accumulated in the last decade are incorporated and the listing and status of some taxa are reassessed based on improved knowledge. Alien flora of the Czech Republic consists of 1454 taxa listed with information on their taxonomic position, life history, geographic origin (or mode of origin, distinguishing anecophyte and hybrid), invasive status (casual; naturalized but not invasive; invasive), residence time status (archaeophyte vs neophyte), mode of introduction into the country (accidental, deliberate), and date of the first record. Additional information on species performance that was not part of the previous catalogue, i.e. on the width of species' habitat niches, their dominance in invaded communities, and impact, is provided. The Czech alien flora consists of 350 (24.1%) archaeophytes and 1104 (75.9%) neophytes. The increase in the total number of taxa compared to the previous catalogue (1378) is due to addition of 151 taxa and removal of 75 (39 archaeophytes and 36 neophytes), important part of the latter being the reclassification of 41 taxa as native, mostly based on archaeobotanical evidence. The additions represent taxa newly recorded since 2002 and reported in the national literature; taxa resulting from investigation of sources omitted while preparing the previous catalogue; redetermination of previously reported taxa; reassessment of some taxa traditionally considered native for which the evidence suggests the opposite; and inclusion of intraspecific taxa previously not recognized in the flora. There are 44 taxa on the list that are reported in the present study for the first time as aliens introduced to the Czech Republic or escaped from cultivation: *Abies concolor*, *A. grandis*, *A. nordmanniana*, *Avena sterilis* subsp. *ludoviciana*, *A. xvilis*, *Berberis julianae*, *B. thunbergii*, *Bidens ferulifolius*, *Buddleja alternifolia*, *Buglossoides incrassata* subsp. *splügerberi*, *Buxus sempervirens*, *Corispermum declinatum*, *Cotoneaster dielsianus*, *C. divaricatus*, *Euphorbia myrsinites*, *Gleditsia triacanthos*, *Helleborus orientalis*, *Hieracium heldreichii*, *Koeleruteria paniculata*, *Lonicera periclymenum*, *Lotus ornithopodioides*, *Malus baccata*, *M. pumila*, *Miscanthus sacchariflorus*, *Morus alba*, *Muscari armeniacum*, *Paeonia lactiflora*, *Pennisetum alopecuroides*, *Pinguicula crystallina* subsp. *hirtiflora*, *P. grandiflora* subsp. *rosea*, *Podophyllum hexandrum*, *Pyracantha coccinea*, *Rhodotypos scandens*, *Rumex patientia* × *R. tianschanicus* 'Uteuša', *Salix cordata*, *Sarracenia purpurea*, *Sasa palmata* 'Nebulosa', *Scolymus maculatus*, *Spiraea japonica*,

*Tagetes tenuifolia*, *Thuja occidentalis*, *Trifolium badium*, *Vaccinium corymbosum* and *Viburnum rhytidophyllum*. All added and deleted taxa are commented on. Of the total number of taxa, 985 are classified as casuals, 408 as naturalized but not invasive, and 61 as invasive. The reduction in the number of invasive taxa compared to the previous catalogue is due to a more conservative approach adopted here; only taxa that currently spread are considered invasive. Casual taxa are strongly over-represented among neophytes compared to archaeophytes (76.7% vs 39.4%), while naturalized but non-invasive taxa follow the reversed pattern (18.8% vs 57.4). However, these two groups do not significantly differ in the proportion of invasive taxa. Of introduced neophytes, 250 taxa (22.6%) are considered vanished, i.e. no longer present in the flora, while 23.3% became naturalized, and 4.5% invasive. In addition to the traditional classification based on introduction–naturalization–invasion continuum, taxa were classified into 18 population groups based on their long-term trends in metapopulation dynamics in the country, current state of their populations, and link to the propagule pressure from cultivation. Mapping these population groups onto the unified framework for biological invasions introduced by Blackburn et al. in 2011 made it possible to quantify invasion failures, and boom-and-busts, in the Czech alien flora. Depending on inclusion criteria (whether or not extinct/vanished taxa and hybrids are considered), alien taxa ever recorded in the Czech Republic contribute 29.7–33.1% to the total country's plant diversity; taking into account only naturalized taxa, a permanent element of the country's flora, the figure is 14.4–17.5%. Analysis of the dates of the first record, known for 771 neophytes, indicates that alien taxa in the flora have been increasing at a steady pace without any distinct deceleration trend; by extrapolating this data to all 1104 neophytes recorded it is predicted that the projected number would reach 1264 in 2050. Deliberate introduction was involved in 747 cases (51.4%), the remaining 48.6% of taxa are assumed to have arrived by unintentional pathways. Archaeophytes are more abundant in landscapes, occupy on average a wider range of habitat types than neophytes, but reach a lower cover in plant communities. The alien flora is further analysed with respect to representation of genera and families, origin and life history.

**Key words:** abundance, alien flora, checklist, casual, cover in plant communities, Czech Republic, exotic species, geographic origin, habitat niche, hybridization, impact, introduction–naturalization–invasion continuum, invasive plants, life history, naturalized, non-native species, residence time, taxonomy

## Introduction

The last decade was a period of intensive research on biological invasions in Europe (see Pyšek & Hulme 2011 for review), an important part of which represented the collation of regional data on alien plant species. With the exception of the UK (Clement & Foster 1994, Ryves et al. 1996, Preston et al. 2002), complete checklists of alien floras for European countries only started to appear at the beginning of the 2000s (Essl & Rabitsch 2002, Klotz et al. 2002, Reynolds 2002). The first comprehensive checklist of alien plants in the Czech Republic was published 10 years ago as a part of the Catalogue of alien plants of the Czech Republic (Pyšek et al. 2002). It provided information on 1378 alien taxa and stimulated development of the associated database CzechFlor, held at the Institute of Botany AS CR in Průhonice. These data, together with other datasets resulting from recent research, have been used for a number of analyses of plant invasions in the country that addressed issues such as species invasiveness (Kubešová et al. 2010, Moravcová et al. 2010), associations with pollinators (Pyšek et al. 2011a), habitat invasibility (Chytrý et al. 2005, 2008a, 2009b, Sádlo et al. 2007), rates of spread and range filling (Williamson et al. 2005, 2009, Pyšek et al. 2011c), interaction of traits, propagule pressure and residence time in affecting invasion success (Pyšek et al. 2009b), pathway efficiency (Pyšek et al. 2011b), and risk assessment (Křivánek & Pyšek 2006, Chytrý et al. 2009b). In addition, data on native

species that are also part of the CzechFlor database provided basis for analyses of the performance of central-European species as aliens in other parts of the world (Pyšek et al. 2009a, Phillips et al. 2010, Stohlgren et al. 2011). Within the DAISIE and ALARM (Settele et al. 2005) projects, the data from the 2002 catalogue were part of the pan-European dataset that was used to analyse invasion patterns at the continental level, including cross-taxonomic evaluation of the role of macroeconomic and demographic factors in determining regional levels of invasion (Pyšek et al. 2010b, Essl et al. 2011), distribution of alien species in habitats (Pyšek et al. 2010a), assessment of ecological and economic impacts of alien species in Europe (Winter et al. 2009, Vilà et al. 2010) and risk-assessment for plants based on habitat mapping (Chytrý et al. 2008b, 2009a, 2012).

These studies clearly indicate the value of complete national or regional checklists for understanding invasions. This started to be fully recognized in the 2000s and resulted in a call for pan-European inventory of invasive species within the European framework programmes; until then there was some information on alien floras available for European countries (Weber 1997), but the quality of data was highly variable (Pyšek 2003). The DAISIE project (2004–2008) made it possible to organize and develop this line of research based on extensive international cooperation in Europe (DAISIE 2009). The project assembled available data on alien plants for 48 European countries and regions, which until then were scattered in a variety of published and unpublished accounts and databases. For some countries DAISIE collected the first comprehensive checklists of alien species based on primary data (Lambdon et al. 2008), and established an online database, the European Invasive Alien Species Gateway (DAISIE 2008). At the same time it stimulated elaboration of comprehensive alien species checklists in individual countries, a process that still continues, and yielded new plant data for e.g. Belgium (Verloove 2006), Estonia (Ööpik et al. 2008), Italy (Celesti-Grapow et al. 2009), Greece (Arianoutsou et al. 2010), and most recently Slovakia (Medvecká et al. 2012).

The Czech Republic, a central-European country with an area 78,864 km<sup>2</sup>, 10.3 million inhabitants, and a human population density of 131 inhabitants per km<sup>2</sup>, is prone to plant invasions due to historical and geographical factors: location on the crossroads of the continent, many natural or human-created migration routes opening possibilities for colonization, and long-lasting human influence that further diversified the naturally diverse and heterogeneous landscape mosaic (see Pyšek et al. 2002 for details). These features, together with a strong botanical tradition and in-depth knowledge of plant communities (Chytrý 2007, 2009, 2011) make the country a suitable model for studying regional patterns of plant invasions. In the last decade since the publication of the previous catalogue a wealth of information on alien species has been accumulated, which created a need for a revision of the original checklist.

The aim of the present paper is to update and improve the original checklist of alien plant taxa in the Czech Republic (Pyšek et al. 2002) by incorporating new data accumulated in the last decade, reassessing the status of taxa resulting from improved taxonomic knowledge, and wherever needed, correcting errors which can hardly be avoided in such a comprehensive work. We also provide additional information that was not part of the previous catalogue, including the width of species' habitat niches, their dominance in invaded communities and their impacts. Changes from the 2002 version are documented so that the reasoning behind them can be followed.

## Methods

### *Data sources*

The basis for the present checklist was the Catalogue of alien plants of the Czech Republic published a decade ago (Pyšek et al. 2002). For historical data, the compilation of both the previous and current checklist relied on an outstanding tradition of the floristic research in the Czech Republic dating back to the second half of the 18th century (reviewed in detail in Pyšek et al. 2002). Already in the 19th century, a series of floras and species lists were published, covering the present territory of the Czech Republic (see Krahulec 2012 for a review of the history of botanical research), and recognizing plants by geographic origin; these provide valuable information about the occurrence of plants at those times and residence times of neophytes (Pohl 1809–1814, Presl & Presl 1819, Opiz 1823, 1852, Rohrer & Mayer 1835, Makowsky 1863, Oborny 1886, Formánek 1887–1897). The wealth of information on alien plants can be found especially in the remarkable works by Čelakovský (1868–1883, 1882–1894), who recognized the alien status and origin of some plants present in the Czech flora and commented in considerable detail on their distribution. The recognition of alien plants continued in floras and specialized studies in the 20th century (e.g. Polívka 1900–1904, Laus 1908, Domin 1917, 1918, 1919, Dostál et al. 1948–1950, 1954, 1958, 1989). Since the 1960s, systematic attention started to be paid to plants, including aliens, in specific human-made habitats (ports, railways, oilseed or wool processing factories, grain silos, mills, rubbish tips, arable land, etc.) thanks to a specialized research section established at the Institute of Botany, Průhonice, in the 1960s. This work yielded several focused compendia (e.g. Hejný et al. 1973) and provided a basis for systematic recording of alien plants (e.g. Jehlík 1986, 1998a).

The Flora of the Czech Republic, with eight of nine planned volumes published up to now (Hejný & Slavík 1988–1992, Slavík 1995, 1997a, 2000, Slavík & Štěpánková 2004, Štěpánková 2010) and the Key to the flora of the Czech Republic (Kubát et al. 2002), served as a fundamental information source for this checklist. Other recent sources included national floristic literature, namely that published in the journals of the Czech Botanical Society (see References). During the last decade, new records for the flora of the Czech Republic have been systematically reported in an annually published series, *Addimenta ad floram Reipublicae Bohemicae*, which has thus far yielded 10 summarizing accounts (Hadinec et al. 2002, 2003, 2004, 2005, Hadinec & Lustyk 2006, 2007, 2008, 2009, 2011, 2012). The series, initiated and edited by J. Hadinec, in cooperation with František Procházka and Pavel Lustyk, proved a valuable source because it not only reports new finds but also critically re-evaluates status of particular species and provides additional data on their distribution.

For archaeophytes, a strong tradition of Czech archaeobotanical research provided a solid basis for evaluation of species origin and immigration status. Main sources include the works of E. Opravil and V. Čulíková (see References), the results of which are now available in the Archaeobotanical database of the Czech Republic (CZAD; Archaeological Institute AS CR 2011).

Other data sources included unpublished information provided by many colleagues (see Acknowledgments), herbarium collections to verify some literature reports (namely PR, PRC, BRNU and PRA; codes follow Thiers 2012) and our own floristic field records from 2002–2012.

The data presented here and in the previous catalogue (Pyšek et al. 2002) are organized in the working database CzechFlor held at the Institute of Botany AS CR, Průhonice.

*Classification of taxa: invasion status*

This work focuses on **alien species** (synonyms: adventive, exotic, introduced, non-indigenous, non-native) in the Czech Republic which we define as species present in the region because human actions enabled them to overcome fundamental biogeographical barriers (i.e. human-mediated extra-range dispersal); they occur in the area as a result of intentional or accidental introduction by humans, or of a spontaneous spread from other regions where they were introduced by humans. Crosses resulting from hybridization with one or both alien species involved are considered alien (Pyšek et al. 2004a). We define **native species** (synonym: indigenous species) as those that have evolved in a given area or that arrived there by natural means (through range expansion) without any intentional or accidental intervention of humans from an area where they are native (Pyšek et al. 2004a).

We classified species according to the stage they reached along the introduction–naturalization–invasion continuum (INIC) that describes how species proceed in the invasion process by overcoming geographical, environmental and biotic barriers (Richardson et al. 2000, 2011, Richardson & Pyšek 2006, Blackburn et al. 2011). Based on this concept we use the following terms to describe the invasion status:

(i) **Casual species** are those alien species that do not form self-sustaining populations in the invaded region; they may flourish and reproduce occasionally in an area but their persistence depends on repeated introductions of propagules.

(ii) **Naturalized species** (synonym: established species) form self-sustaining populations for several life cycles without direct intervention by people, or despite human intervention; they often recruit offspring freely, usually close to adult plants and their persistence does not depend on ongoing input of propagules.

(iii) **Invasive species** are a subset of naturalized species; they form self-replacing populations over many life cycles, produce reproductive offspring, often in very large numbers at considerable distances from the parent and/or site of introduction, and have the potential to spread over long distances. In addition to this definition, we introduce the metapopulation criterion to separate invasive species from naturalized, to account for the historical population dynamics of the treated taxa (see the next section).

We included in the list all taxa that were reported to occur at least once in the wild, while those kept exclusively in cultivation are not considered. For escapees from cultivation, a plant was included in the list if it reproduced on its own outside the space where it was sown or planted (Pyšek et al. 2002). In plants reproducing by seed, germination outside such space was considered as an escape from cultivation. A plant reproducing clonally was considered as an escape from cultivation only if it survived winter and persisted in a given site until the following growing season.

Compared to the previous catalogue (Pyšek et al. 2002), we adopted a more conservative approach; if there were doubts about a species' origin status and no strong evidence to consider it alien, it was not included in the list; this conservative approach resulted in removing some species that were listed in the previous catalogue (see Appendix 1).

The classification of casual vs naturalized status is especially difficult for woody plants reproducing in the parks or gardens where they are planted; in some cases this happens

over a large area and for decades (e.g. many trees and shrubs in the Průhonice Park near Prague where there is a long-term systematic recording of regeneration). Here we aimed at adopting the criterion of reproduction over several generations (Richardson et al. 2000) which puts the time criterion in a different perspective than that applied for non-woody taxa. Such taxa are therefore mostly classified as casual. Also, the majority of hybrids are considered casual, with the exception of stabilized hybrids that include some naturalized (e.g. *Medicago* ×*varia*, *Helianthus* ×*laetiflorus*, *Mentha* ×*rotundifolia* and *Oenothera* spp.) or invasive taxa (e.g. *Reynoutria* ×*bohemica*, *Populus* ×*canadensis* and *Symphoricarpon* ×*versicolor*).

Unlike the previous catalogue (see Pyšek et al. 2002 and their Appendix 1), we do not explicitly label taxa as locally naturalized. In the present paper this can be inferred from the combination of invasion status and regional abundance category in Appendix 2. In the same vein, taxa are not labelled as post-invasive since this status is included in the classification using the population groups (see below).

*Classification of taxa into categories based on long-term population dynamics and historical link with cultivation: incorporating the unified framework for biological invasions*

In addition to traditional classification scheme dividing species into three basic categories along the INIC (Richardson et al. 2000, Richardson & Pyšek 2006, Pyšek & Richardson 2010) here we attempt for an even finer classification based on the population approach emphasized by Blackburn et al. (2011). The basis for this classification are the criteria of reproduction and survival applied against the background of the metapopulation approach. This makes it possible to separate species that survive in a single or few populations in a spatially restricted area from those that spread and form metapopulations over large areas.

Another important point to emphasize is that we refer to the population history viewed from the **current perspective**, i.e. the state in which the populations of a given species exist at present. Therefore, invasions that proved unsuccessful in proceeding along the various stages of the INIC (see Blackburn et al. 2011 and their Fig. 1) are reflected in the current classification, and in changes of invasion status compared to the previous treatment (Pyšek et al. 2002). From this it follows that some taxa that were previously classified as naturalized are moved to the casual category (reflecting ‘invasion failure’), and some taxa previously considered invasive are now classified as naturalized (reflecting ‘boom and bust phenomenon’; sensu Blackburn et al. 2011). These shifts among the INIC categories reflect not only changes in species’ behaviour in the past decade but also the more conservative approach adopted for the current classification. Another principle we follow is that of the **highest stage achieved** at the population level; individual populations of an alien species may occur in a region in different stages of the INIC; early in the process, some can be naturalized while others are still casual (e.g. Essl et al. 2009), whereas later on, some can be invasive while others not (e.g. Meyerson et al. 2010a, b, Saltonstall et al. 2010). Therefore, if some of the populations of a species reached the naturalized or invasion stage, the species is classified as such in Appendix 2.

Therefore, the rationale of classification of alien species into finer groups (termed ‘population groups’) is based on the following criteria (Table 1):

(A) **Sustainability of populations** of the species in the target region of the Czech Republic; here we distinguish between (i) species existing as non-self-sustaining populations or occasionally recorded individuals, corresponding to Blackburn et al.'s (2011) categories B3+C2, and the casual stage of Richardson et al.'s (2000) framework; the reason for lumping the categories B3 (defined as individuals transported beyond limits of native range, and directly released into novel environment) and C2 (individuals surviving in the wild in location where introduced, reproduction occurring, but population not self-sustaining) is that from records in floristic literature it is impossible to infer whether the presence of the plant is due to a direct introduction of a propagule into the region or a result of a temporary reproductive event within the region; (ii) species occurring in self-sustaining populations; these populations can be numerous and widespread but remain isolated (C3+D1+D2, naturalized species – lumping due to insufficient knowledge about whether the populations recruit from the original point of introduction and whether those spread far from it reproduce in new locations); and (iii) species that currently form numerous and persistent metapopulations widespread over large areas (Blackburn et al.'s 2011 category E).

(B) **Historical population dynamics** is used to classify species according to the highest stage they reached in the invasion process combined with the current state. We distinguish whether or not the most successful populations of unsuccessful species have established and were surviving in the region before decline to the current levels of occurrence; successful species are classified based on the tendency for spread, with respect to whether this trend occurred in the past or is still valid (Table 1). Employing this criterion, i.e. focus on the current status of species' populations and processes that resulted in the present state, is the reason why the correspondence with the categories of Blackburn et al. (2011) is, however, not automatically translated into those of the introduction–naturalization–invasion continuum. This concerns those species classified as D1, D2 and considered invasive in Blackburn et al.'s (2011) scheme (self-sustaining population in the wild, with individuals surviving, or also reproducing, a significant distance from the original point of introduction), populations of which no longer exhibit dynamic spread and are currently stabilized (Groups 7, 9, 11 in Table 1), or even decline in the Czech Republic (Group 6). We also do not consider as invasive those species that only start to exhibit symptoms of the beginning spread (Groups 8, 10, 12). Adhering to a conservative approach, these species are still considered as naturalized. Nevertheless, they merit particular attention in terms of monitoring as they are likely to become invasive in the near future. Only those species that are currently spreading are classified as invasive (Groups 14, 16, 18; Table 1).

(C) **Link to populations in cultivation.** The above criteria are employed against the background of species' planting histories in the region. Here we separate species into (i) those that have never been cultivated (corresponding to contaminant and stowaway pathways of introduction according to Hulme et al. 2008; Appendix 2), hence unsupported by the propagule pressure from planted populations; (ii) those in which the peak of planting intensity was in the past and at present the planting ceased or is only of marginal importance; and (iii) those that are still commonly kept in cultivation, be it for horticultural or agricultural purposes. For the cultivated species this criterion refers to the degree of continuity of propagule pressure. The time frame over which this criterion applies is the last ca 200 years for which period the information on the frequency of planting can be inferred.

Table 1. – Classification of the alien flora of the Czech Republic into population groups (PG) based on the current population state and their connectivity, trends in their long-term dynamics, and link to cultivated populations as a source of propagule pressure in the past and present. See text for details. The population groups are referred by numbers presented in Appendix 2, with the INIC (introduction–naturalization–invasion continuum) status indicated and number of species shown in parentheses. The link to the unified invasion framework (Blackburn et al. 2011) is indicated by their categories that are relevant to the given population state shown in parentheses; note that some of their categories referring to the invasion stage such as D1, D2, E (Blackburn et al. 2011; their Fig. 1) are classified as naturalized because the focus here is on the present state and approach adopted is conservative. Taxa in these categories may have reached the invasion stage in the past but their populations are stabilized and no longer spread. Link to standard classification of the INIC categories (Richardson et al. 2000) is indicated by coloured shading. The scheme also separates groups of taxa introduced by unintentional pathways (contaminant, stowaway), marked “none” in the Cultivation column, from those introduced deliberately (release, escape; Hulme et al. 2008, Pyšek et al. 2011b).

| Populations                      | Cultivation  | Introduction & Failure     | Establishment & Failure | Establishment & No trend   | Starting spread        | Ongoing spread      |
|----------------------------------|--------------|----------------------------|-------------------------|----------------------------|------------------------|---------------------|
| (a) Not self-sustaining (B3, C2) | (a1) None    | PG1: casual (395)          | PG2: casual (45)        |                            |                        |                     |
|                                  | (a2) Past    |                            | PG3: casual (17)        |                            |                        |                     |
|                                  | (a3) Ongoing | PG4 & 5: casual (501 & 28) |                         |                            |                        |                     |
| (b) Self-sustaining (C3, D1, D2) | (b1) None    |                            | PG6: naturalized (54)   | PG7: naturalized (40)      | PG8: naturalized (43)  |                     |
|                                  | (b2) Past    |                            |                         | PG9: naturalized (36)      | PG10: naturalized (11) |                     |
|                                  | (b3) Ongoing |                            |                         | PG11: naturalized (65)     | PG12: naturalized (31) |                     |
| (c) Metapopulations (E)          | (c1) None    |                            |                         | PG13: naturalized (100)    |                        | PG14: invasive (28) |
|                                  | (c2) Past    |                            |                         | PG15: naturalized (8)      |                        | PG16: Invasive (9)  |
|                                  | (c3) Ongoing |                            |                         | Group 17: naturalized (19) |                        | PG18: invasive (24) |
| Total taxa                       |              | 924                        | 116                     | 268                        | 85                     | 61                  |



### *Residence time status*

Based on the residence time, i.e. the time since the arrival of a species to the territory of the present Czech Republic, we distinguish archaeophytes (taxa introduced before the discovery of America, approx. 1500 A. D.) and neophytes (taxa introduced after that date), following the concept traditionally used in European studies on plant invasions (e.g. Holub & Jirásek 1967, Pyšek et al. 2002, 2004a). When evaluating residence time status of hybrids, we followed that of the alien parent; therefore, crosses of archaeophytes with native are considered archaeophytes, and hybridization with neophytes involved are classified as neophytes regardless of the status of the second parent.

For neophytes, we determined the year of the first record in the Czech Republic that is used to infer the minimum residence time, i.e. the time for which the species is known to be present (Rejmánek 2000, Pyšek & Jarošík 2005, Richardson & Pyšek 2006); this characteristic is important in evaluation of invasion status since it indicates how much time the species had to colonize suitable habitats (Williamson et al. 2009, Gassó et al. 2010), go through a lag phase (Kowarik 1995, Crooks 2005) or build relationship with native biota (Pyšek et al. 2011a). As pointed out above, the reliability of the years of first records crucially depends on the intensity of floristic research in the past (see Pyšek et al. 2002 for discussion).

### *Species traits: taxonomic affiliation and life history*

Taxonomic affiliation of taxa to families follows the approach of the Angiosperm Phylogeny Group Classification: APG III (Stevens 2001 onwards, Angiosperm Phylogeny Group 2009), and Smith et al. (2006) for ferns. This classification system incorporates data from molecular, chemical and morphological phylogenies in an attempt to represent the latest thinking on angiosperm evolution, and in a few lineages (e.g. *Scrophulariales*) it differs markedly from the traditional system.

The following life histories were assigned to the species: annual, biennial, perennial, semishrub, shrub, tree, fern, aquatic and parasitic (see Appendix 2).

### *Geographic origin*

Taxa were classified according to their geographic origin (native range) at the level of continents (parts of Europe other than the Czech Republic, Africa, Asia, North America including Mexico, Central America, South America, and Australia). Unlike the previous catalogue (Pyšek et al. 2002), we distinguished the Mediterranean region as a separate region of origin, covering respective parts of southern Europe, northern Africa and western Asia from Turkey and Israel to Afghanistan. This broad definition of the Mediterranean region corresponds to the Mediterranean, Submediterranean and Oriental Floristic Subregions according to Meusel et al. (1965). The region delimited in this way is very convenient for plant invasion studies as it includes the areas of origin of Neolithic agriculture. Indications of Europe, Asia and Africa in Appendix 2 refer to their parts other than the Mediterranean region in this delimitation.

Hybrids and species that originated through recent hybridization are listed as a special origin category and we employed classification based on how species originated in terms of their evolutionary history. This approach acknowledges that some did not evolve naturally, but under human influence, do not have a natural home range, and their original hab-

it is unknown (Kühn & Klotz 2003). Especially for many archaeophytes, native ranges are not known or are highly uncertain, and some archaeophytes are regarded as alien throughout their known global range. These taxa, termed anecophytes (homeless plants; Zohary 1962) could be cultivated plants that escaped to the wild or plants that co-evolved with human land uses such as agriculture (Kühn & Klotz 2002, 2003, Kühn et al. 2004). In our treatment, we follow the more conservative approach and label as anecophytes mostly those species that evolved in cultivation, or species occurring in the wild but with their region of origin being unknown.

#### *Regional abundance*

Type of regional abundance in the landscape was estimated for each taxon using the following scale: single locality, rare, scattered, locally abundant, and common across the whole Czech Republic. A special category termed ‘vanished’ relates to the taxa for which no records have been known for a long period, and where it is highly improbable that they would appear again (Pyšek et al. 2002).

#### *Occurrence in habitats*

The previous catalogue provided information on the occurrence of alien species in phytosociological alliances, different types of landscapes and with respect to landuse (Pyšek et al. 2002). Here we use extensively revised data from the database of species occurrences in 88 major habitat types of the Czech Republic as defined by Sádlo et al. (2007), which correspond to phytosociological alliances or groups of alliances. All four levels of species affinity to the habitats as defined by Sádlo et al. (2007: 305) are taken into account, i.e. a species is considered as occurring in a habitat even if the habitat is outside its ecological optimum, but the species is occasionally found there.

#### *Cover in plant communities*

To obtain the data on the cover of alien species in plant communities, we used vegetation plot observations (phytosociological relevés) stored in the Czech National Phytosociological Database held at the Department of Botany and Zoology, Masaryk University, Brno (Chytrý & Rafajová 2003, EU-CZ-001 according to Dengler et al. 2011). At the time of data extraction (April 2012) the database contained 88,215 relevés from plots smaller than 1000 m<sup>2</sup> with an indication of plot size and geographical coordinates. Of these, 41,582 relevés contained at least one alien species. To reduce oversampling of some areas or some vegetation types, we selected only one relevé from a group or relevés assigned to the same phytosociological alliance within the same grid cell of 1.25 longitudinal × 0.75 latitudinal minutes, i.e. approximately 1.5 × 1.4 km. This stratified resampling yielded 16,033 relevés containing 437 alien species, which were used to quantify species cover. Only species occurring in at least 25 relevés were evaluated to avoid inaccuracies resulting from small sample size. For these species, mean percentage cover across all relevés in which the species was present was calculated.

#### *Impact*

To provide the first insights into the impacts of alien plant species in the Czech Republic, we used the data gathered by the DAISIE project (DAISIE 2008, 2009) and indicated

those species on our list for which an ecological and/or economic impact is reported in the literature (Vilà et al. 2010). With a few exceptions indicated in Appendix 2, this classification has not been done specifically for the Czech Republic but refers to any region in Europe, meaning that species labelled as exerting impact may not do so in this country.

### *Statistical analysis*

To test whether there are differences between species numbers according to their invasion status, life histories, abundances and origins, their counts were analysed by row  $\times$  column contingency tables, using generalized linear models with log-link function and Poisson distribution of errors (e.g. Crawley 1993: 231–237). To ascertain for which species the counts are lower or higher than would be expected by chance, adjusted standardized residuals of G-tests were compared with critical values of normal distribution (Řehák & Řeháková 1986). The estimates of yearly accumulations of neophytes, including projected total numbers in 2050, were assessed from linear regressions of cumulative numbers that started in the year 1800.

## Results and discussion

### *Diversity of alien flora*

The alien flora of the Czech Republic consists of 1454 taxa, made up by 350 archaeophytes (24.1%) and 1104 neophytes (75.9%; Table 2, Appendix 2), which represent addition to ca 2945 native taxa known from the country (using a preliminary estimate from Danihelka et al. 2012) and form 33.1% of the total plant diversity ever recorded there. Although similar figures for individual countries are subject to variation resulting not only from composition of floras but also from the variable depth of their knowledge, intensity of research into alien species, or whether apomictic species are included in comparisons (see Williamson 2002, Pyšek et al. 2002 and discussion therein), the proportion given here seems to reasonably reflect situation in countries with detailed knowledge of their floras. Subtracting species that are assumed to be vanished among alien (277 taxa, Appendix 2) and extinct from native flora (153 taxa in the Red List categories A1 and A2; Danihelka et al. 2012) yields a figure of 29.7% of aliens contributing to the plant diversity currently occurring in the Czech Republic.

Table 2. – Numbers of all alien taxa in the Czech Republic, including hybrids, cross-tabulated across invasion status and immigration time. Note that invasive taxa are subgroup of naturalized. Overall, the observed counts of alien taxa (in bold) highly significantly ( $\chi^2 = 193.56$ ;  $df = 2$ ;  $P < 0.0001$ ) differ from counts expected by chance (values in parentheses). Statistically highly significant deviations of individual counts from counts that can be expected by chance are expressed by asterisks (\*\*\*)  $P < 0.001$ ; numbers in parentheses not followed by any symbol do not differ from randomly expected values.

|               | Casual                | Naturalized              |                  | Total |
|---------------|-----------------------|--------------------------|------------------|-------|
|               |                       | Naturalized non-invasive | Invasive         |       |
| Archaeophytes | <b>138</b> (235.5)*** | <b>201</b> (97.6)***     | <b>11</b> (14.8) | 350   |
| Neophytes     | <b>847</b> (748.5)*** | <b>207</b> (310.3)***    | <b>50</b> (47.2) | 1104  |
| All aliens    | 985                   | 408                      | 61               | 1454  |

If we further exclude 94 hybrids recorded from the total number of alien taxa, and compare this figure with the current native species diversity without 575 hybrids (Daníhelka et al. 2002), the proportion of alien taxa 32.8%. The hybrids between neophytes and native taxa, and between two neophytes, are more frequent than hybrids involving archaeophytes. Overall, neophytes are involved in 58 hybrid combinations, archaeophytes in 42 and native species in 56 (Table 3).

Finally, considering only permanently present taxa, i.e. 469 naturalized aliens (including both non-invasive and invasive) and the native flora without extinct representatives, yields 14.4% contribution of alien flora to the current plant diversity, or 17.5% if hybrids are excluded from native flora. This proportion is probably a more realistic measure of the level of invasion of the country's species pool than is usually given in overall figures based on all species ever recorded, including casuals, because it better reflects the threat from alien species' impacts and potential for invasion debt to operate (Essl et al. 2011).

Table 3. – Numbers of hybrids in the alien flora classified according to the origin and residence time status of their parental species. Note that the total number of hybrids across the three groups (n = 94) does not correspond to the sum of numbers within the groups involved because all combinations are displayed row-wise. Anecophytes are listed as species of unknown origin, the majority of which originated by hybridization in cultivation. Hybrids of native species are not relevant (n.r.) for this comparison.

|                               | × Archaeophyte | × Neophyte | × Native | Total within group |
|-------------------------------|----------------|------------|----------|--------------------|
| Archaeophyte                  | 13             | 6          | 23       | 42                 |
| Neophyte                      | 6              | 19         | 33       | 58                 |
| Native                        | 23             | 33         | n.r.     | 56                 |
| Hybrids total                 |                |            |          | 94                 |
| Anecophytes                   |                |            |          | 105                |
| Hybrids and anecophytes total |                |            |          | 199                |

#### *Changes to the 2002 checklist*

Compared to the first checklist (Pyšek et al. 2002), 75 taxa were removed (39 archaeophytes and 36 neophytes). The majority of these changes resulted from reclassifying some taxa as native (41 taxa) where evidence for their alien origin was not convincing enough under the conservative approach adopted in the present paper; they were mostly archaeophytes but there are also six neophytes with alien status which appeared doubtful based on recently published evidence: *Agropyron pectinatum*, *Crocus heuffelianus*, *Epilobium dodonaei*, *Senecio rupestris*, *Teucrium scorodonia* and *Viola tricolor* subsp. *curtisii*. For nine taxa previously classified as deliberately introduced casuals, the evidence for escaping from cultivation was ambiguous. Other deletions relate to 10 taxonomically unjustified taxa now omitted from the Czech flora, and 16 cases are doubtful records previously only reported in the literature that cannot be considered as proven without herbarium evidence, or taxa that were erroneously determined by the collector. All deleted species are dealt with in detail in Appendix 1.

In total, 151 taxa not listed in Pyšek et al. (2002) are included, representing additions to the alien flora of the Czech Republic. This includes taxa newly recorded since 2002 and (i) reported in the literature (e.g. *Convallaria majalis* var. *transcaucasica*, *Darmara peltata*,

*Dittrichia graveolens*, *Euphorbia agraria*, *Galium murale*, *Geranium purpureum*, *Gratiola neglecta*, *Hypericum annulatum*, *Legousia pentagonia*, *Pimpinella peregrina* and *Stachys setifera*), including two volumes of the Flora of the Czech Republic published in this period (Slavík & Štěpánková 2004, Štěpánková 2010) that report taxa missing from previous catalogue (e.g. *Cichorium endivia*, *Egeria densa* and *Filago pyramidata*); (ii) additions resulting from investigation of sources omitted from the previous catalogue (e.g. *Euphrasia salisburgensis*, *Herniaria incana*, *Rumex longifolius* subsp. *sourekii*, *Trifolium badium* and *Xerochrysum bracteatum*), including some herbarium materials (e.g. *Centaurea carniolica*, *C. transalpina* and *Corispermum declinatum*); (iii) redetermination of previously reported taxa (e.g. *Eriochloa punctata*, *Gilia achilleifolia*, *Hieracium* sp. ex *H. heldreichii* agg., *Rodgersia pinnata* and *Spiraea hypericifolia* subsp. *obovata*); (iv) reassessment of some taxa traditionally considered native for which the evidence suggests the opposite (e.g. *Eragrostis pilosa*, *Lathyrus hirsutus*, *Lilium bulbiferum*, *Matricaria chamomilla* and *Sorbus austriaca*); (v) intraspecific taxa previously not recognized in the flora (e.g. *Avena sterilis* subsp. *ludoviciana*). Accounts on the newly added alien species in the Czech flora are given in Appendix 1, with respective references.

In total, 44 taxa are reported in the present study for the first time as aliens introduced to the Czech Republic or escaping from cultivation (Appendix 1): *Abies concolor*, *A. grandis*, *A. nordmanniana*, *Avena sterilis* subsp. *ludoviciana*, *A. xvilis*, *Berberis julianae*, *B. thunbergii*, *Bidens ferulifolius*, *Buddleja alternifolia*, *Buglossoides incrassata* subsp. *splitgerberi*, *Buxus sempervirens*, *Corispermum declinatum*, *Cotoneaster dielsianus*, *C. divaricatus*, *Euphorbia myrsinites*, *Gleditsia triacanthos*, *Helleborus orientalis*, *Hieracium heldreichii* agg., *Koelreuteria paniculata*, *Lonicera periclymenum*, *Lotus ornithopodioides*, *Malus baccata*, *M. pumila*, *Miscanthus sacchariflorus*, *Morus alba*, *Muscari armeniacum*, *Paeonia lactiflora*, *Pennisetum alopecuroides*, *Pinguicula crystallina* subsp. *hirtiflora*, *P. grandiflora* subsp. *rosea*, *Podophyllum hexandrum*, *Pyracantha coccinea*, *Rhodotypos scandens*, *Rumex patientia* × *R. tianschanicus* ‘Uteuša’, *Salix cordata*, *Sarracenia purpurea*, *Sasa palmata* ‘Nebulosa’, *Scolymus maculatus*, *Spiraea japonica*, *Tagetes tenuifolia*, *Thuja occidentalis*, *Trifolium badium*, *Vaccinium corymbosum* and *Viburnum rhytidophyllum*.

Finally, compared to the previous version of the catalogue (Pyšek et al. 2002), 134 names were changed due to nomenclatural reasons or development in taxonomic opinion; these changes are summarized in Electronic Appendix 1.

#### *Transitions along the introduction–naturalization–invasion continuum*

Among the 1454 taxa, 985 (67.7%) are classified as casual, 408 (28.1%) as naturalized but non-invasive, and 61 (4.2%) as invasive (Fig. 1, Table 2). Among casual taxa, 86.0% are neophytes and 14.0% archaeophytes, the corresponding figures being 50.7 and 49.3%, respectively, for naturalized, and 82.0 and 18.0% for invasive taxa. From this it follows that casual taxa are strongly over-represented among neophytes, and naturalized among archaeophytes (Table 2, Fig. 1), a pattern previously illustrated for the Czech flora by Pyšek et al. (2002) and also valid for neighbouring Slovakia (Medvecká et al. 2012). Interestingly, the observed numbers of neither archaeophytes nor neophytes differ from those expected by chance, indicating that there is no difference between the two groups in the proportion of species that reach the invasion stage (Table 2, Fig. 1).

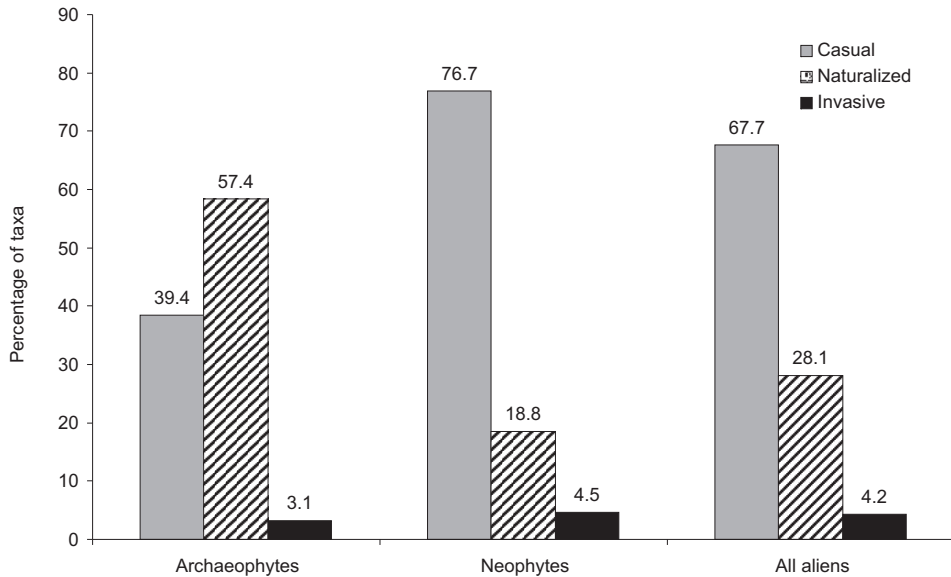


Fig. 1. – Representation of taxa according to invasion status (casual, including vanished taxa; naturalized but non-invasive; invasive) among archaeophytes, neophytes and all aliens in the flora of the Czech Republic. See Table 2 for the numbers of taxa and statistics.

Data on neophytes provide insights into the transition rates along INIC, i.e. how large a proportion of species reach the subsequent stages of the invasion process (Fig. 2); this proportion cannot be calculated for archaeophytes because information on casual species from the initial periods of introduction is missing (Pyšek et al. 2002). Of the total number of 847 recorded casual neophytes, 250 (29.5%) have not been recorded for a long period of time and are therefore considered vanished (96 of them were only known from a single locality), and 597 (70.5%) are currently present as casuals. Of the 1104 neophytes, 257 (23.3%) became naturalized, and 50 (19.5%) of the naturalized are considered invasive (Fig. 2).

The approach we adopt takes into account invasion failures, represented by dotted arrows in Fig. 2 that indicate reversed directions in the invasion process. This makes it possible, by using finer classification based on the assessment of long-term population dynamics and its comparison with the current stage (Table 1), to map the number of taxa onto the unified framework of biological invasions (Blackburn et al. 2011). Four types of unsuccessful invasions can be recognized, depicted in Fig. 3 and based on population groups described below: (i) casual taxa that failed to establish, never forming self-sustaining populations (PG 1+4+5); (ii) taxa that formed self-sustaining populations in the past but declined so that this is no longer the case (PG 2+3); (iii) taxa present for a long time with populations surviving in the landscape; although they are still considered naturalized, their invasion obviously failed because they are rare and their decline is likely to continue (PG6); (iv) naturalized species that form stabilized metapopulations in the wild, some of them reached the invasion stage in the past but their current occurrence indicates that they declined; therefore they are considered as representatives of the boom and bust phenomenon (PG 13+15+17; Fig. 3).

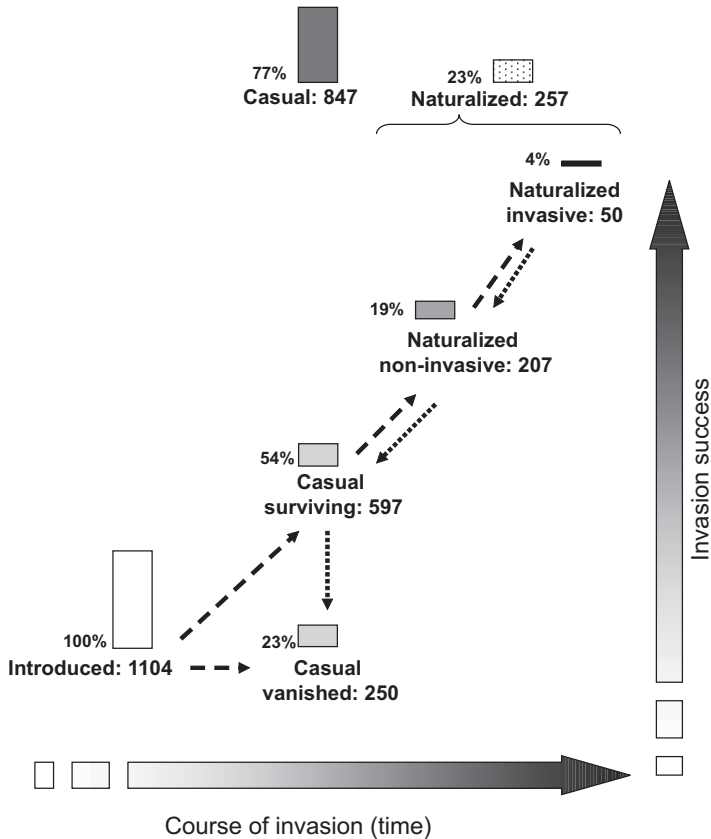


Fig. 2. – Transition rates in alien flora of the Czech Republic, shown for neophytes, along the introduction–naturalization–invasion continuum (INIC). For each category, the number of taxa is given and the height of the bar with the associated number indicates the percentage of the total number of 1104 neophytes recorded that reached that stage. Casuals are divided into those that survive (70.5% of the total number of casuals) and that are considered vanished (29.5%), naturalized into non-invasive (80.5%) and invasive (19.5%). Invasion failures at different stages of the INIC are represented by dotted arrows and quantified in Fig. 3.

### Overview of population groups

(a) Not self-sustaining populations or individuals

(a1) No link to cultivation

**Group 1. Introduction and failure.** Unintentionally introduced taxa that were only recorded as individuals or in small populations, mostly occasionally, and are reported from a single or few locations; they are classified as casuals and a significant proportion (186 of 395 in total) are considered vanished, i.e. recorded in the past and not observed for a long time since the last record. The vast majority of taxa in this group (364) are neophytes, and many occasionally recorded hybrids (75) also fall here. Typical examples include *Alhagi maurorum*, *Chloris virgata*, *Cakile maritima*, *Conyza triloba* and *Scleroblitum atriplicinum*.

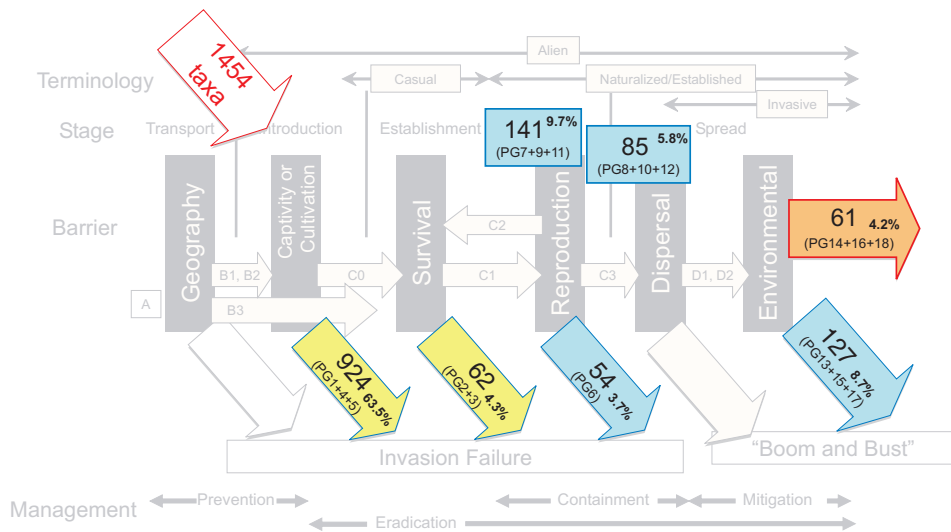


Fig. 3. – Population groups (PG) of alien taxa in the Czech flora (see text for details and Table 1 for overview) mapped onto the unified framework for biological invasions (Blackburn et al. 2011; the background figure reprinted with permission from Elsevier Limited). Population groups corresponding to casual □, naturalized but not invasive □, and invasive □ taxa are distinguished by different colours. Number of taxa and percentages of the total of 1454 are indicated for each stage. Note that the groups do not match precisely the casual–naturalized–invasive areas at the top of the scheme due to distinguishing taxa that correspond to invasion boom and bust (taxa that spread in the past, formed metapopulations but their spread ceased, therefore are at present considered naturalized rather than invasive; PG13+15+17).

**Group 2. Establishment and failure.** This group includes almost exclusively archaeophytes (37 of 45 in total) that were surviving in the landscape for centuries or millennia, formed self-sustained populations in the past, some of them might have been even invasive at some stage, but now they have declined or are even considered vanished (22 taxa). In the previous catalogue, they were mostly classified as naturalized, often post-invasive (Pyšek et al. 2002); the change in classification of these taxa resulted from the focus on the current state adopted in the present treatment and the fact that they no longer occur in populations that can be considered self-sustaining. The group includes some red-listed archaeophytes (e.g. *Agrostemma githago*, *Atriplex rosea*, *Heliotropium europaeum*, *Lolium remotum* and *Scandix pecten-veneris*; Holub & Procházka 2000), but also neophytes (e.g. *Cnidium silaifolium* and *Xanthium spinosum*), and refers to the invasion failure in the sense of Blackburn et al. (2011).

#### (a2) Past link to cultivation

**Group 3. Establishment and failure.** A group of 17 taxa that are either archaeophytes or neophytes introduced long ago, mostly in the 19th century, were surviving due to weak but continued propagule pressure from cultivated populations in the past but never formed self-sustaining population in the wild. Since the planting has ceased or its intensity strongly decreased, they are currently declining or have already vanished (13 taxa). Examples include *Camelina sativa*, *Chenopodium foliosum*, *Dracocephalum moldavica*, *Madia sativa*, *Pyrus nivalis*, *Stachys affinis* or *Trigonella foenum-graecum*.



(a3) Ongoing link to cultivation

**Group 4 & 5. Introduction and failure.** An escape from cultivation analogous to Group 1. Group 4 includes 501 casual taxa, mostly neophytes (458), that rely on continued input of propagules from planted populations. Usually they are planted as garden ornamentals and the link between planted populations and those in the wild is very close. In terms of abundance, these taxa are at best scattered (339 are rare, 109 reported from a single site) and 56 are vanished. Examples include *Convolvulus tricolor*, *Dahlia pinnata*, *Dasiphora fruticosa* and *Ficus carica*. Some woody plants that escaped from cultivation have close link with planted populations, but have not formed (yet) long-sustaining populations due to long generation time (e.g. *Celtis occidentalis*, *Crataegus persimilis* and *Paulownia tomentosa*) or limited ability to establish permanently (e.g. *Abies grandis* and *Platanus ×hispanica*) are included in this group. Some taxa previously classified as naturalized by Pyšek et al. (2002) were reassigned to this group (e.g. *Allium tuberosum*, *Helleborus viridis*, *Othocallis siberica*, *Polygonatum latifolium* and *Sedum rupestre* subsp. *erectum*), including some shrubs surviving in single or a few locations (e.g. *Alnus rugosa*, *Ribes odoratum* and *Rubus canadensis*).

Group 5 is defined based on the same principles, the difference being current rather massive propagule pressure from large-scale planting for agricultural or horticultural purposes. It includes 28 taxa, with archaeophytes prevailing (21) but neophytes also represented, and examples include *Allium cepa*, *Anethum graveolens*, *Helianthus annuus*, *Triticum aestivum* or *Zea mays*. There are 18 anecophytes in this group.

(b) Self-sustaining isolated populations

(b1) No link to cultivation

**Group 6. Establishment and failure.** This group includes 54 archaeophytes that were introduced independently of cultivation, survived in the landscape for centuries or even millennia and although their populations are declining, they still survive in the wild as rare or scattered. The majority of them occur in warm regions and it is assumed that many of them were invasive at some stage in their invasion history (classified as naturalized post-invasive in Pyšek et al. 2002), often as weeds of arable land. Examples include *Ajuga chamaepitys* subsp. *chamaepitys*, *Anagallis foemina*, *Bifora radians* and *Ranunculus arvensis*. A subset in this group are taxa confined to habitats associated with breeding domestic animals in villages, e.g. *Chenopodium vulvaria*, *Lepidium coronopus*, *Marrubium peregrinum* and *Sclerochloa dura*.

**Group 7. Establishment and no trend.** The group consists of 40 taxa, most of them archaeophytes (21) but also old neophytes are represented (19), most of them introduced in the 19th century. The taxa from this group occur mostly as scattered or rare but without a significant trend for decline or spread. Examples include: *Brachypodium rupestre*, *Genista sagittalis*, *Crepis capillaris*, *Geranium molle*, *Papaver dubium*, *Pastinaca sativa* subsp. *urens* and *Potentilla intermedia*.

**Group 8. Starting spread.** A group comprising almost exclusively neophytes (40 of 43 in total), mostly introduced in the 20th century, that have formed self-sustaining populations and exhibited signs of starting spread in the last decades. The majority of them were classified as naturalized in the previous catalogue (Pyšek et al. 2002), but there are also 11 taxa that were in the casual stage at the beginning of the 2000s and their dynamics in the last decade justifies reassessment, e.g. *Abutilon theophrasti* and *Senecio inaequidens*. The

group includes also taxa that formed a small but abundant and persisting population that is currently prevented from further spread by the barrier of unsuitable habitats (*Corispermum pallasii*) or those that were introduced fairly recently and had not time yet to fully manifest their invasion potential (*Agrostis scabra*, *Dittrichia graveolens* and *Panicum miliaceum* subsp. *agricola*).

(b2) Past link to cultivation.

**Group 9. Establishment and no trend.** An escape from cultivation analogous to Group 7. This group includes 36 taxa, mostly neophytes (27), that form stabilized self-sustaining populations in the wild as a result of past planting, ranging from rare to common in abundance (e.g. *Calystegia pulchra*, *Hesperis matronalis* subsp. *matronalis*, *Saxifraga hostii* subsp. *hostii* and *Viola suavis*), but also archaeophytes with the same characteristics (*Glycyrrhiza glabra*, *Lilium bulbiferum* and *Myrrhis odorata*).

**Group 10. Starting spread.** This group includes 11 taxa, nine of them being naturalized neophytes that exhibit signs of starting spread and are likely to become invasive in the future, e.g. *Dipsacus strigosus* and *Duchesnea indica*. Compared to previous catalogue (Pyšek et al. 2002), *Azolla filiculoides* and *Bromus carinatus* that were assessed as casual, appear in this category. The group also includes two archaeophytes, *Bryonia dioica* and *Galega officinalis*.

(b3) Ongoing link to cultivation

**Group 11. Establishment and no trend.** A group of 65 taxa with early introduced neophytes prevailing (57 taxa, for the majority of them the first record is available from the 19th century), that occur as rare or scattered but have formed self-sustaining populations with ongoing support of propagule pressure from cultivated populations. Examples include *Alcea rosea*, *Lychnis coronaria* and *Matteuccia struthiopteris*. Compared to previous classification (Pyšek et al. 2002), 25 taxa considered as casual then are now considered to form self-sustaining populations, e.g. *Arabis procurrens*, *Eranthis hyemalis* and *Erysimum cheiri*. Populations of some taxa are likely to start spread in the future, being currently still constrained by a short residence time (e.g. *Elaeagnus commutata*).

**Group 12. Starting spread.** This group includes 31 taxa, all but one neophytes, that are still more or less widely planted and exhibit the signs of beginning spread, e.g. *Colutea arborescens*, *Fallopia aubertii*, *Hordeum jubatum* and *Pinus nigra*. Based on the marked dynamics in the last decade, some of them were reclassified from the casual category in Pyšek et al. (2002) to naturalized, e.g. *Buddleja davidii* (first reported to escape from cultivation in 2000), *Aesculus hippocastanum*, *Symphyotrichum laeve* or *Sagittaria latifolia*. The group also includes several taxa formerly classified as invasive for which this classification is not (yet) justified using the conservative approach adopted here: they are *Amorpha fruticosa*, *Cytisus scoparius* subsp. *scoparius*, *Galeobdolon argentatum*, *Mahonia aquifolium*, *Physocarpus opulifolius*, *Rhus typhina* or *Sedum hispanicum*.

(c) Invasive metapopulations

(c1) No link to cultivation

**Group 13. Establishment and no trend.** A group of 100 unintentionally introduced taxa with occurrence stabilized during centuries or millennia of presence in the target region, consisting mostly of archaeophytes (87 taxa). The examples include many common weeds

of agricultural land and ruderal taxa such as *Anagallis arvensis*, *Anthemis arvensis*, *Chenopodium strictum*, *Convolvulus arvensis*, *Euphorbia peplus*, *Lamium purpureum*, *Lapsana communis* subsp. *communis*, *Malva neglecta* and *Thlaspi arvense*. Majority of taxa (68) were assumed to be post-invasive in Pyšek et al. (2002). Sixteen species previously classified as invasive were reassigned into this naturalized category, e.g. *Apera spica-venti*, *Atriplex oblongifolia*, *Bryonia alba*, *Epilobium adenocaulon*, *Matricaria discoidea*, *Rumex thyrsiflorus*, *Tripleurospermum inodorum* and *Veronica persica*.

**Group 14. Spread.** This group includes 28 taxa that became invasive following unintentional introduction. Most of them are neophytes (20), e.g. *Amaranthus powellii*, *Ambrosia artemisiifolia*, *Bidens frondosus*, *Conyza canadensis*, *Cuscuta campestris*, *Rumex alpinus*, but invasive archaeophytes are also represented, e.g. *Atriplex sagittata*, *Cirsium arvense*, *Echinochloa crus-galli* and *Portulaca oleracea* subsp. *oleracea*. Apparently, annual weeds prevail with some exceptions such as *Bunias orientalis*, whereas both other invasive groups (16 and 18) consist mainly of robust perennials and woody taxa, the differences reflecting life histories associated with unintentional vs deliberate pathways of introduction (Pyšek et al. 2011b).

#### (c2) Past link to cultivation

**Group 15. Establishment and no trend.** Group of eight taxa, both archaeophytes (e.g. *Cymbalaria muralis* and *Spergula arvensis* subsp. *sativa*) and neophytes (e.g. *Acorus calamus* and *Elodea canadensis*), with the same features as Group 13 but supported in their naturalization by past cultivation, and no longer spreading. *Elodea canadensis*, *Mimulus guttatus*, *Tanacetum vulgare* and *Veronica filiformis* have been reclassified from invasive status (Pyšek et al. 2002) to naturalized.

**Group 16. Spread.** Nine taxa that still spread and the naturalization and invasion of which has been supported by planting that was most intensive in the past; they are all early introduced neophytes classified as invasive already in the previous catalogue (Pyšek et al. 2002): *Ailanthus altissima*, *Angelica archangelica* subsp. *archangelica*, *Echinops sphaerocephalus*, *Heracleum mantegazzianum*, *Impatiens glandulifera*, *I. parviflora*, *Lycium barbarum* and *Telekia speciosa*. The only exception is *Asclepias syriaca*, previously classified as naturalized; this species started to spread in the last decade, especially in southern Moravia.

#### (c3) Ongoing link to cultivation

**Group 17. Establishment and no trend.** A group of 19 taxa, consisting of 12 archaeophytes and 7 neophytes that are still commonly planted at present and form stabilized metapopulations in the wild. Examples include *Armoracia rusticana*, *Lolium multiflorum*, *Prunus cerasus* and *Trifolium hybridum*. Twelve taxa were classified as post-invasive by Pyšek et al. (2002) and four considered as invasive in this source were reassessed (*Digitalis purpurea*, *Melilotus albus*, *M. officinalis* and *Viola odorata*) and included in this group of naturalized taxa.

**Group 18. Spread.** A group of 24 invasive taxa that are currently spreading were supported by planting throughout their invasion history, including the present time. There are only two archaeophytes, *Arrhenatherum elatius* and *Prunus cerasifera*, while the vast majority of species in this group are neophytes that started to appear in the wild in the 19th century. The examples include many major plant invaders in the Czech Republic such as

*Acer negundo*, *Helianthus tuberosus*, *Lupinus polyphyllus*, *Pinus strobus*, *Prunus serotina*, *Quercus rubra*, *Reynoutria ×bohemica*, *R. japonica* var. *japonica*, *Robinia pseudacacia*, *Solidago canadensis* and *S. gigantea*. All taxa in this group but *Prunus cerasifera* were classified as invasive already in Pyšek et al. (2002). Although taxa confined to eutrophic ruderal habitats generally prevail in this group, those preferring nutrient-poor soils (such as *Pinus strobus*, *Prunus serotina*, and *Quercus rubra*) are also present.

#### *Taxonomic composition*

Alien taxa in the Czech flora are representatives of 586 genera and 107 families (Appendix 2). The genera richest in taxa (including hybrids and anecophytes) among all aliens are *Amaranthus* (24 taxa), *Oenothera* (23) and *Trifolium* (19) but there are marked differences between neophytes and archaeophytes in this respect: *Oenothera*, *Amaranthus*, *Trifolium*, *Rumex*, *Solanum*, *Rubus* and *Centaurea* are most represented genera among neophytes, whereas *Vicia*, *Prunus*, *Veronica*, *Atriplex*, *Bromus*, *Viola* and *Chenopodium* among archaeophytes (Table 4).

Overall, neophytes belong to 508 and archaeophytes to 184 genera; exclusively ‘archaeophytic genera’ (with only archaeophytes among their alien taxa) that include at least three alien representatives are *Arctium* (7 taxa), *Spergula* (4), *Anthriscus*, *Marrubium*, *Myosotis*, *Polycnemum*, *Pyrus*, *Sonchus* and *Valerianella* (3).

Families most represented in alien flora (Table 5) are *Asteraceae* (198 taxa; 13.6% of the alien flora), *Poaceae* (152; 10.5%) and *Brassicaceae* (101; 6.3%); apart from minor changes in the numbers of taxa resulting from the above described additions and deletions, the pattern of richness at the level of most represented families is the same as reported in detail in Pyšek et al. (2002). Some major changes in the richness of families in the current treatment, compared to Pyšek et al. (2012; e.g. *Amaranthaceae* 76 vs 25 taxa, *Scrophulariaceae* 5 vs 39), are attributed to the different classification system used here (Stevens 2001 onwards, The Angiosperm Phylogeny Group 2009). All but one (*Linaceae*) of the total number of 107 families included contain at least one neophyte representative, while archaeophytes originate from only 42 families. The families richest in neophytes are *Asteraceae*, *Poaceae*, *Rosaceae*, *Fabaceae* and *Brassicaceae* (Table 5), which together contain 485 taxa and account for 43.9% of all neophytes. *Asteraceae*, *Poaceae* and *Brassicaceae* also rank high among archaeophytes, but there are also other families that are rich in archaeophytes (e.g. *Apiaceae*, *Caryophyllaceae*, *Plantaginaceae* and *Boraginaceae*; Table 5).

#### *Temporal trends and pathways of introduction*

The data on the first record in the studied region, known for 771 neophytes, allow to reconstruct the increase in the number of taxa introduced into the Czech Republic over the last three centuries, although it is clear that the reliability of data on residence times decreases towards the past (Lambdon et al. 2008). The numbers of new taxa recorded in particular years reflect peaks associated with specific events such as the increased interest in plants of human-made habitats in the 1970s, linked to the establishment of a working group at the Institute of Botany (Hejný et al. 1973, Pyšek 2001, Pyšek et al. 2003, 2011b), or the publication of the first catalogue of Czech alien plants (Pyšek et al. 2002). However, when the cumulative number of the first species records is plotted against time, the trend suggests a rather steady increase of four alien arrivals per year since the beginning of the 19th century

Table 4. – Genera with the highest diversity of alien taxa in the Czech flora, cross-tabulated according to immigration time and invasion status. The 23 genera represented by at least 10 alien taxa are shown. Other taxon-rich genera include *Avena*, *Cirsium*, *Hordeum*, *Malva*, *Papaver*, *Setaria*, *Silene*, *Sisymbrium*, *Symphyotrichum* (8 alien taxa), *Brassica*, *Camelina* and *Fumaria* (7 alien taxa). Hybrids are included. Cas – casual; natur – naturalized non-invasive; inv – invasive.

| Genus              | Archaeophytes |       |     | Neophytes |       |     | Total         |           |            |
|--------------------|---------------|-------|-----|-----------|-------|-----|---------------|-----------|------------|
|                    | cas           | natur | inv | cas       | natur | inv | archaeophytes | neophytes | all aliens |
| <i>Amaranthus</i>  | 1             | 1     |     | 16        | 4     | 2   | 2             | 22        | 24         |
| <i>Oenothera</i>   |               |       |     | 16        | 7     |     | 0             | 23        | 23         |
| <i>Trifolium</i>   |               |       |     | 16        | 3     |     | 0             | 19        | 19         |
| <i>Chenopodium</i> | 1             | 5     |     | 9         | 2     |     | 6             | 11        | 17         |
| <i>Rumex</i>       |               |       |     | 11        | 3     | 3   | 0             | 17        | 17         |
| <i>Viola</i>       | 4             | 3     |     | 8         | 2     |     | 7             | 10        | 17         |
| <i>Bromus</i>      | 2             | 5     |     | 8         | 1     |     | 7             | 9         | 16         |
| <i>Solanum</i>     |               | 1     |     | 14        | 1     |     | 1             | 15        | 16         |
| <i>Centaurea</i>   | 1             | 1     |     | 11        | 2     |     | 2             | 13        | 15         |
| <i>Vicia</i>       | 2             | 6     |     | 6         | 1     |     | 8             | 7         | 15         |
| <i>Rubus</i>       |               |       |     | 9         | 5     |     | 0             | 14        | 14         |
| <i>Allium</i>      | 3             | 1     |     | 8         | 1     |     | 4             | 9         | 13         |
| <i>Artemisia</i>   | 1             | 2     |     | 7         | 3     |     | 3             | 10        | 13         |
| <i>Euphorbia</i>   |               | 4     |     | 9         |       |     | 4             | 9         | 13         |
| <i>Epilobium</i>   |               |       |     | 11        | 1     |     | 0             | 12        | 12         |
| <i>Geranium</i>    |               | 4     |     | 5         | 3     |     | 4             | 8         | 12         |
| <i>Lepidium</i>    |               | 4     |     | 6         | 2     |     | 4             | 8         | 12         |
| <i>Veronica</i>    |               | 7     |     | 3         | 2     |     | 7             | 5         | 12         |
| <i>Atriplex</i>    | 3             | 3     | 1   | 4         |       |     | 7             | 4         | 11         |
| <i>Prunus</i>      | 2             | 5     | 1   | 2         |       | 1   | 8             | 3         | 11         |
| <i>Eragrostis</i>  |               |       | 1   | 8         | 1     |     | 1             | 9         | 10         |
| <i>Lathyrus</i>    | 1             | 1     |     | 6         | 2     |     | 2             | 8         | 10         |
| <i>Sedum</i>       |               |       |     | 6         | 4     |     | 0             | 10        | 10         |

without any distinct decelerating trend and a projected total number of 1264 taxa in the year 2050. Fifty per cent of the present known taxa were recorded up to 1935, 60% up to 1957, 70% up to 1963, 80% up to 1973, and 90% up to 1997 (Fig. 4). This indicates that the number of alien taxa recorded in the Czech Republic will be increasing at a similar rate in the near future, corresponding to a trend reported for Europe (Hulme et al. 2009) and creating an invasion debt (Essl et al. 2011).

As to the pathways of introduction into the country, deliberate introduction was involved in 747 of the 1454 taxa (51.4%). Most deliberate introductions resulted from ornamental or horticultural plantings (see Pyšek et al. 2002 for detailed analyses of planting purposes). The remaining 48.6% of taxa are assumed to have arrived by unintentional pathways, i.e. mostly as contaminants of commodities or stowaways (Hulme et al. 2008, Pyšek et al. 2011b). The ratio of deliberate and unintentional introduction is reversed in archaeophytes and neophytes, with 30.7% of the total number of taxa deliberately introduced among the former and 57.9% among the latter.

Table 5.— Families with the highest diversity of alien taxa in the Czech flora, cross-tabulated according to immigration time and invasion status. The 29 families represented by at least 10 alien taxa are shown. Hybrids are included. Cas – casual; natur – naturalized but non-invasive; inv – invasive. The classification of families follows that of Angiosperm Phylogeny Group: APG III (Stevens 2001 onwards, Angiosperm Phylogeny Group 2009).

| Family                 | Archaeophytes |       |     | Neophytes |       |     | Total         |           |            |
|------------------------|---------------|-------|-----|-----------|-------|-----|---------------|-----------|------------|
|                        | cas           | natur | inv | cas       | natur | inv | archaeophytes | neophytes | all aliens |
| <i>Asteraceae</i>      | 18            | 26    | 1   | 114       | 22    | 17  | 45            | 153       | 198        |
| <i>Poaceae</i>         | 14            | 20    | 4   | 99        | 15    |     | 38            | 114       | 152        |
| <i>Brassicaceae</i>    | 10            | 22    |     | 50        | 17    | 2   | 32            | 69        | 101        |
| <i>Rosaceae</i>        | 7             | 10    | 1   | 54        | 19    | 1   | 18            | 74        | 92         |
| <i>Fabaceae</i>        | 5             | 11    |     | 58        | 15    | 2   | 16            | 75        | 91         |
| <i>Amaranthaceae</i>   | 9             | 11    | 1   | 42        | 8     | 5   | 21            | 55        | 76         |
| <i>Lamiaceae</i>       | 12            | 9     |     | 30        | 9     |     | 21            | 39        | 60         |
| <i>Apiaceae</i>        | 14            | 6     | 2   | 18        | 2     | 1   | 22            | 21        | 43         |
| <i>Onagraceae</i>      |               |       |     | 29        | 8     |     | 0             | 37        | 37         |
| <i>Solanaceae</i>      |               | 3     |     | 30        | 3     | 1   | 3             | 34        | 37         |
| <i>Caryophyllaceae</i> | 6             | 7     | 1   | 14        | 5     |     | 14            | 19        | 33         |
| <i>Plantaginaceae</i>  | 2             | 12    |     | 12        | 6     |     | 14            | 18        | 32         |
| <i>Polygonaceae</i>    | 2             | 1     |     | 18        | 5     | 6   | 3             | 29        | 32         |
| <i>Boraginaceae</i>    | 4             | 7     |     | 17        | 2     |     | 11            | 19        | 30         |
| <i>Papaveraceae</i>    | 3             | 11    |     | 10        | 2     |     | 14            | 12        | 26         |
| <i>Ranunculaceae</i>   | 2             | 3     |     | 15        | 4     |     | 5             | 19        | 24         |
| <i>Malvaceae</i>       | 3             | 4     |     | 13        | 2     |     | 7             | 15        | 22         |
| <i>Geraniaceae</i>     |               | 5     |     | 9         | 3     |     | 5             | 12        | 17         |
| <i>Violaceae</i>       | 4             | 3     |     | 8         | 2     |     | 7             | 10        | 17         |
| <i>Amaryllidaceae</i>  | 3             | 1     |     | 9         | 2     |     | 4             | 11        | 15         |
| <i>Asparagaceae</i>    |               | 1     |     | 12        | 2     |     | 1             | 14        | 15         |
| <i>Euphorbiaceae</i>   |               | 5     |     | 10        |       |     | 5             | 10        | 15         |
| <i>Crassulaceae</i>    |               |       |     | 9         | 5     |     | 0             | 14        | 14         |
| <i>Cucurbitaceae</i>   | 3             | 2     |     | 4         | 1     | 1   | 5             | 6         | 11         |
| <i>Orobanchaceae</i>   | 1             | 2     |     | 7         | 1     |     | 3             | 8         | 11         |
| <i>Saxifragaceae</i>   |               |       |     | 10        | 1     |     | 0             | 11        | 11         |
| <i>Campanulaceae</i>   |               |       |     | 9         | 1     |     | 0             | 10        | 10         |
| <i>Iridaceae</i>       |               | 2     |     | 7         | 1     |     | 2             | 8         | 10         |
| <i>Rubiaceae</i>       | 1             | 3     |     | 6         |       |     | 4             | 6         | 10         |

### *Life histories and regions of origin*

Among all aliens, 43.3% are annuals, 33.1% perennials, 10.8% biennials, 8.5% shrubs or semishrubs, and 4.3% trees. Archaeophytes and neophytes demonstrate a highly significant difference in the distribution of life histories: the former are more often annuals (56.4% vs 38.8% among neophytes) or biennials (17.0% vs 8.6%) and less often perennials (18.2% vs 38.3%) or shrubs and trees (8.5% vs 14.3%; Fig. 5).

The main donors of alien plants to the Czech Republic are the Mediterranean region (34.6%), other parts of Europe (19.4%), other parts of Asia (13.1%) and North America (12.6%). The contribution of other regions (Central America, South America, Africa, Australia) does not exceed 4%. The region of origin could not be assigned for 199 taxa, a group consisting of 105 archaeophytes and 94 taxa of hybrid origin (Fig. 6). The data on origins confirm the well-known difference between archaeophytes and neophytes in terms

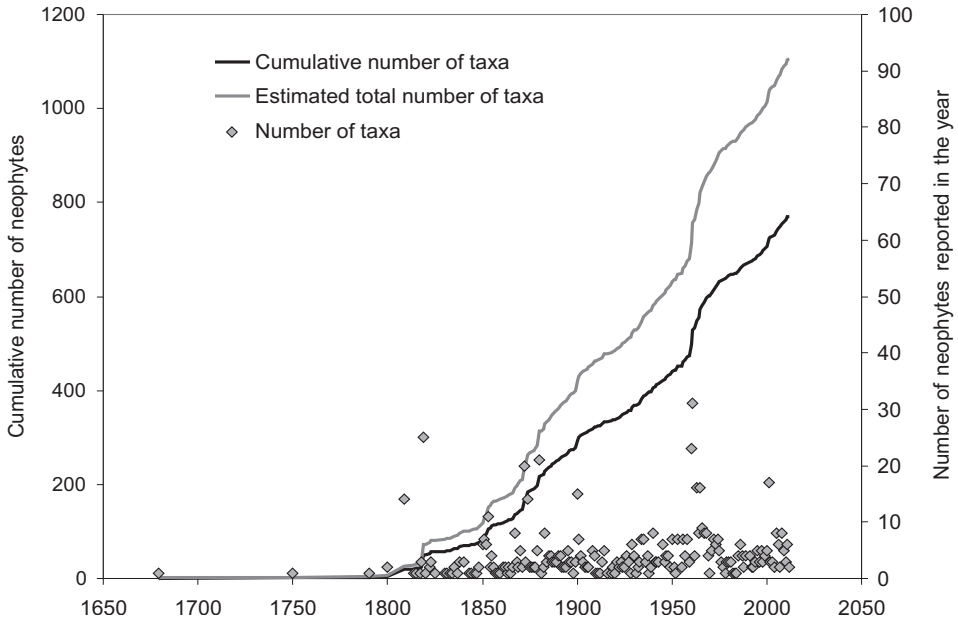


Fig. 4. Temporal trends in the alien flora of the Czech Republic in the last 200 years based on neophytes with known year of the first report ( $n = 771$ ). Also shown is extrapolated trend for the total number of taxa ( $n = 1104$ ), and numbers of taxa reported in particular years (right axis).

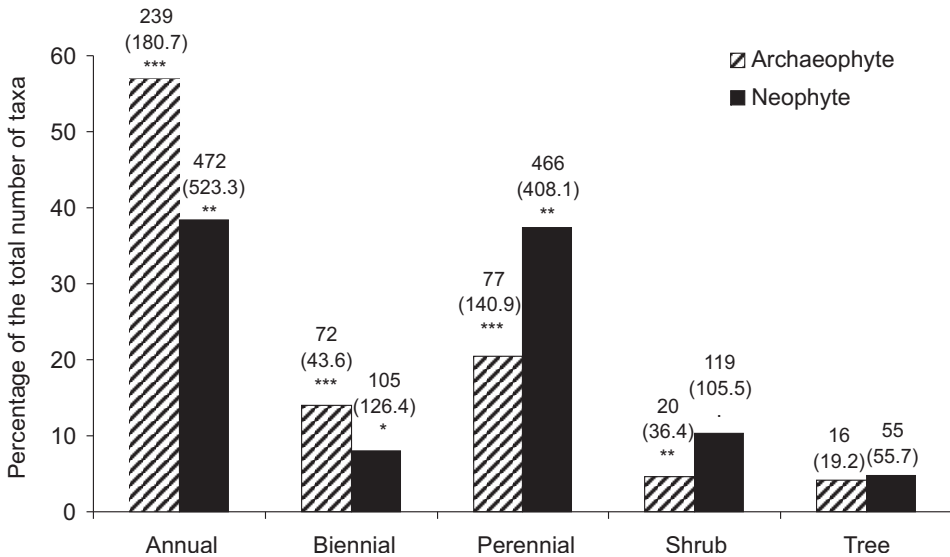


Fig. 5. – Representation of life histories among alien taxa in the Czech Republic. Taxa with multiple life histories were considered in each category so the sum of the numbers of taxa (shown on top of the bars) does not match the total numbers of archaeophytes and neophytes. Overall, the observed counts of alien taxa highly significantly ( $\chi^2 = 94.25$ ;  $df = 4$ ;  $P < 0.0001$ ) differ from counts expected by chance (values in parentheses). Statistically significant deviations of individual counts from counts that can be expected by chance are expressed by the number of asterisks (\*\*\*  $P < 0.001$ ; \*\*  $P < 0.01$ ; \*  $P < 0.05$ ) and marginal significance by a dot ( $P < 0.1$ ); numbers in parentheses not followed by any symbol do not differ from randomly expected values. Semishrubs are included within shrubs. Excluded from these statistics are 4 ferns (all neophytes), 11 aquatic species (all neophytes) and 11 parasitic species (3 archaeophytes, 8 neophytes).

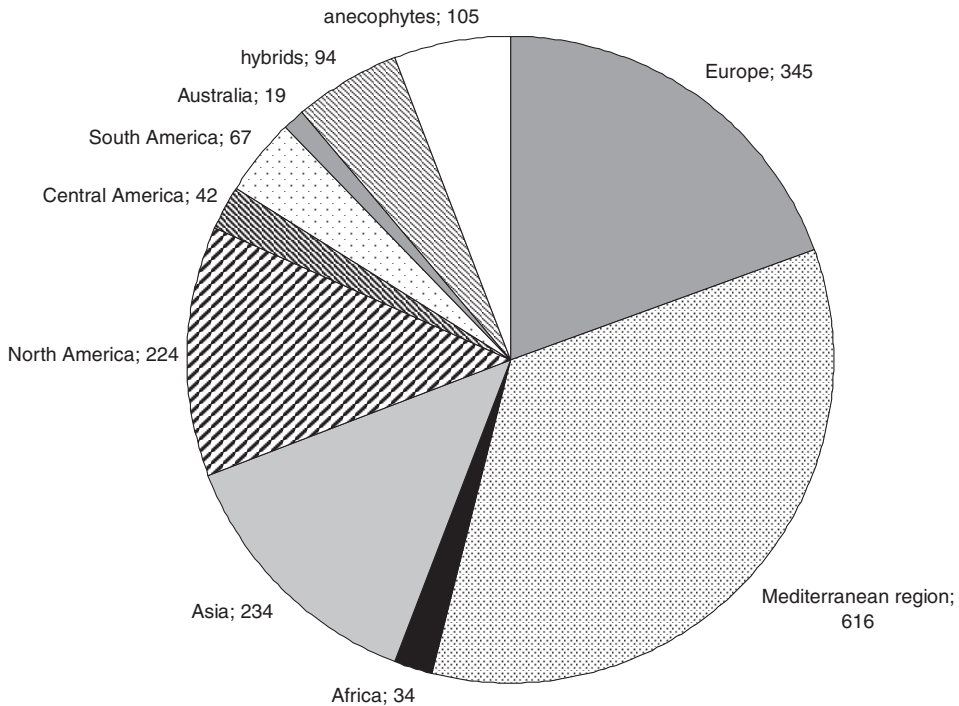


Fig. 6. – Proportional contribution of the world regions to the alien flora of the Czech Republic. Region names are followed by numbers of taxa native to that region. Note that native distribution regions extend over more than one area, therefore the sum of taxon numbers exceeds the total of 1454 recorded in the present study. Europe, Asia and Africa refer to parts of these continents outside the Mediterranean region. Taxa originated through hybridization and anecophytes are shown separately.

of source regions (e.g. Pyšek et al. 2002, 2004b, 2005, Chytrý et al. 2005, 2008a, b): more than a half (52.7%) of archaeophytes originate from the Mediterranean region (the figure increases to 64.5% if anecophytes and hybrids are excluded), which is, however, also the most frequent donor of neophytes (28.7%). The contribution of other parts of Europe and Asia to the total number of taxa is slightly higher for neophytes than for archaeophytes, 19.9% vs 17.8% and 14.2% vs 10.1%, respectively (Fig. 7).

Since archaeophytes, by definition, have not arrived from overseas, it is plausible to compare their regions of origins with those of neophytes if Americas and Australia are excluded. The difference between archaeophytes and neophytes in such a comparison is still statistically highly significant ( $\chi^2 = 45.057$ ;  $df = 3$ ;  $P < 0.0001$ ). Highly significantly ( $P < 0.001$ ) more archaeophytes originated in the Mediterranean region (231 vs 180.5 expected counts), but highly significantly less ( $P < 0.01$ ) in the other parts of Asia (44 vs 67.9), significantly ( $P < 0.05$ ) less in the other parts of Europe (78 vs 100.1) and marginally significantly less ( $P < 0.1$ ) in Africa (5 vs 9.6). Conversely, neophytes originated in the Mediterranean region were significantly less represented (385 vs 436.5) and those from the other parts of Asia marginally significantly more represented (190 vs 164.1).



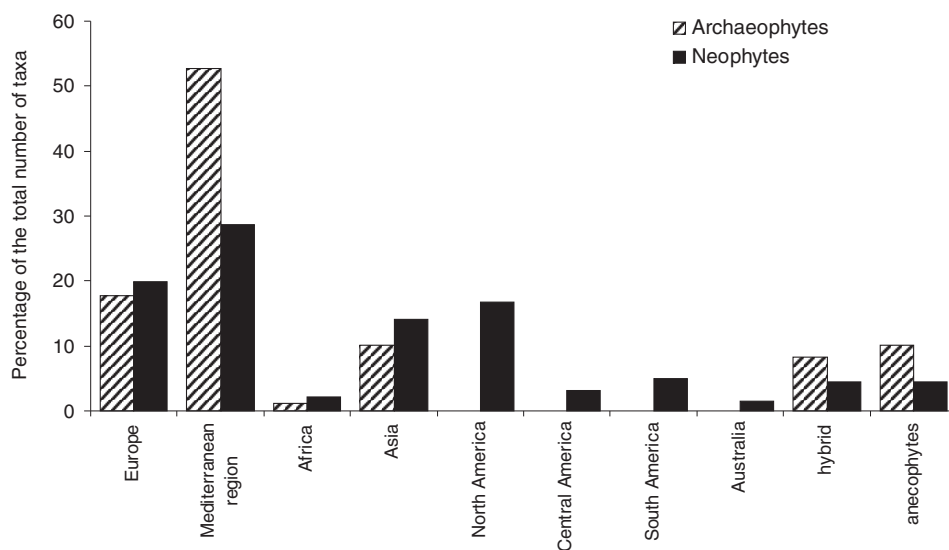


Fig. 7. – Distribution of archaeophytes and neophytes in the Czech Republic according to their origin. Taxa originating from multiple regions as designated here are included in each region. See text for the results of statistical analysis.

### *Regional abundance, habitats and cover in plant communities*

Archaeophytes are generally more abundant in the field, which reflects that they were provided with more time in the target region (Pyšek et al. 2002, 2004b, 2011a). Of the total number of archaeophytes, 22.0% are considered common (highly significantly more than expected by chance), 2.9% locally abundant and 28.5% scattered (highly significantly more than expected by chance). This pattern strikingly contrasts with that found for neophytes. Only 2.9% of neophytes (35 taxa) are classified as common (highly significantly less than expected by chance) and 3.0% locally abundant, 8.1% scattered (highly significantly less than expected) while as many as 86.0% occur in low-abundance categories (rare, single locality or vanished; with the last two categories occurring highly significantly or significantly, respectively, more often than expected by chance); the corresponding figure for archaeophytes being 46.6%, with these categories significantly or highly significantly underrepresented. Two hundred and twelve neophytes (17.7%) are only known from a single locality (compared to only five archaeophyte hybrids; Appendix 2) and 250 (22.6%) are labelled as vanished (compared to only 27 archaeophytes, i.e. 7.7%) (Fig. 8).

The contrasting patterns in the occurrence of both immigration status groups, archaeophytes and neophytes, translate into those of the breadth of their habitat niches, expressed as the number of habitats of the total of 88, occupied by 497 taxa that could be classified according to their habitat affinities (Šádlo et al. 2007). Archaeophytes occupy on average more habitats ( $9.5 \pm 9.0$ , mean  $\pm$  S.D.,  $n = 244$ ) than neophytes ( $6.4 \pm 6.1$ ,  $n = 253$ ), and 31.6% of them occur in more than 10 habitats (compared to only 17.8% of

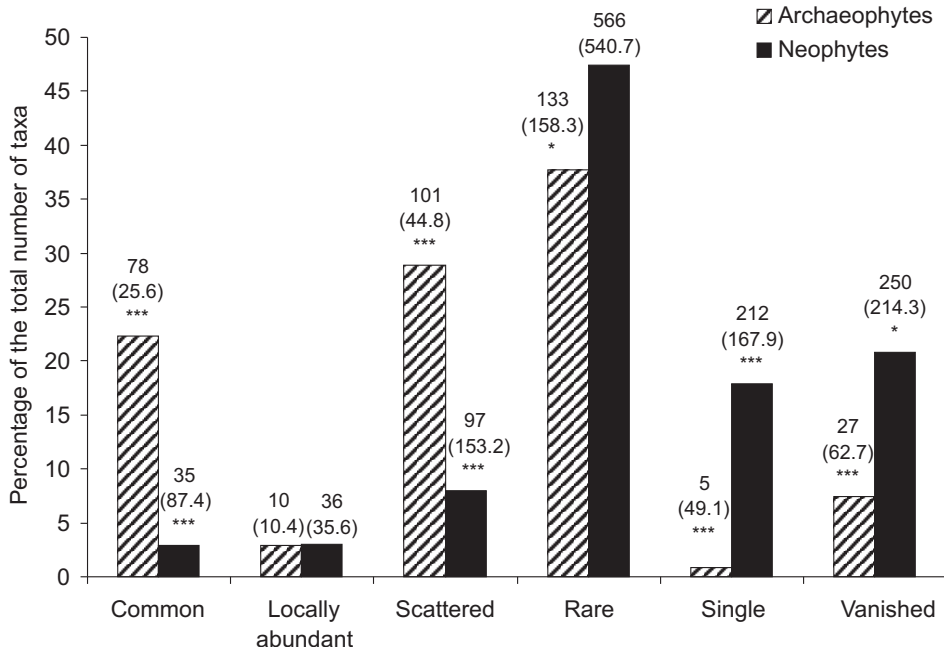


Fig. 8. – Distribution of alien taxa in the Czech Republic in abundance categories. The sum of the numbers of taxa, shown on top of the bars, exceeds the total numbers of archaeophytes and neophytes as some taxa occurred in a single location and disappeared; they are included in both ‘single’ and ‘vanished’ categories. Overall, the observed counts of alien taxa highly significantly ( $\chi^2 = 312.392$ ;  $df = 5$ ;  $P < 0.0001$ ) differ from counts expected by chance (values in parentheses). Statistically significant deviations of individual counts from counts that can be expected by chance are expressed by the number of asterisks (\*\*\*  $P < 0.001$ ; \*  $P < 0.05$ ); numbers in parentheses not followed by any symbol do not differ from randomly expected values.

neophytes; Fig. 9). Ten archaeophytes and only three neophytes (*Conyza canadensis*, *Epilobium adenocaulon* and *Impatiens parviflora*) grow in a wide range of habitats exceeding 30 (see Sádlo et al. 2007: their Table 2). The species with the broadest habitat niche of all alien taxa in the Czech Republic is an archaeophyte, *Arrhenatherum elatius*, occurring in 62 of 88 habitats (see Appendix 1 for comments on its classification).

The covers that alien taxa reach in plant communities in the Czech Republic yield a completely opposite picture of neophyte vs archaeophyte comparison (Fig. 10). Neophytes are shifted towards high-cover categories, reaching on average 8.5% cover ( $n = 48$ ), markedly more than archaeophytes (4.7%,  $n = 131$ ). The first five taxa with highest average covers are all neophytes: *Acorus calamus* 39% (recorded in  $n = 293$  vegetation plots), *Elodea canadensis* 35% ( $n = 412$ ), *Helianthus tuberosus* 26% ( $n = 62$ ), *Heracleum mantegazzianum* 26% ( $n = 27$ ) and *Reynoutria japonica* var. *japonica* lumped with *R. xbohemica* 26% ( $n = 51$ ). Other neophytes with a high cover are *Impatiens glandulifera* (18%,  $n = 302$ ), *Solidago gigantea* (17%,  $n = 99$ ), *Echinocystis lobata* (14%,  $n = 33$ ) and *Pinus nigra* (13%,  $n = 33$ ).

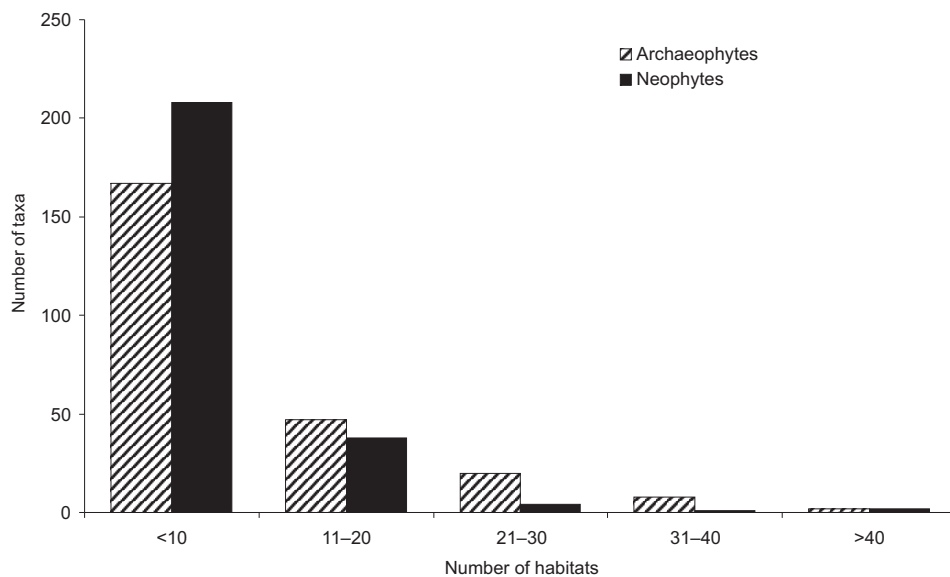


Fig. 9. – Frequency distribution of the numbers of habitats ( $n = 88$ ) in which alien taxa are recorded, shown separately for archaeophytes ( $n = 244$ ) and neophytes ( $n = 253$ ).

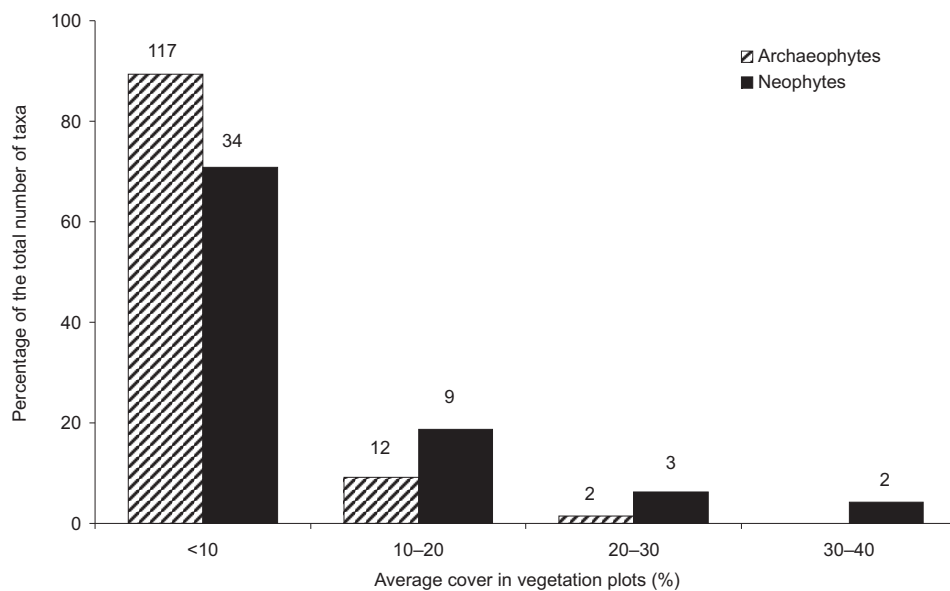


Fig. 10. – Frequency distribution of covers of alien taxa in plant communities in the Czech Republic. Only taxa for which data from at least 25 plots are available were included. Numbers of taxa in each cover class are shown on top of the bars.

Although this comparison must be taken with caution because the vegetation plots were sampled in a subjective, preferential way, average plot sizes for individual taxa differ and there is also great variation in the number of plots from which the data are derived, the differences between the two groups of aliens are robust enough to indicate that neophytes are on average more successful in colonizing plant communities and often forming monodominant stands (see also Chytrý et al. 2008a).

### Impact

A thorough assessment of impacts of plant invasions in the Czech Republic is still missing which reflects the fact that studies summarizing information on impacts across alien floras of large regions are still rare despite intensive research in the last few years (Parker 1999, Gaertner et al. 2009, Pyšek & Richardson 2010, Vilà et al. 2010, 2011, Winter et al. 2009, Pyšek et al. 2012). Based on data on impacts of alien plants in Europe summarized by the DAISIE project (DAISIE 2009, [www.europe-aliens.org](http://www.europe-aliens.org)), there are 133 taxa on the list of Czech alien plants that were documented in the literature to exert ecological impacts and/or economic impacts in some parts of Europe (Appendix 2), some of them also in the Czech Republic (Hejda et al. 2009). These data make it possible to highlight taxa that already impose ecological impacts but also those that can become threat in the future.

The group of taxa with documented ecological impacts covers 33 taxa that are classified as invasive in the present study, and includes most of the major invaders in the Czech Republic, some of them threatening seminatural habitats (e.g. *Acer negundo*, *Ailanthus altissima*, *Helianthus tuberosus*, *Heracleum mantegazzianum*, *Impatiens glandulifera*, *Impatiens parviflora*, *Lupinus polyphyllus*, *Lycium barbarum*, *Pinus strobus*, *Prunus serotina*, *Reynoutria japonica* var. *japonica*, *R. sachalinensis*, *R. xbohemica*, *Robinia pseudoacacia*, *Rudbeckia laciniata*, *Solidago canadensis* and *S. gigantea*) but also noxious weeds of arable land (e.g. *Amaranthus retroflexus* and *Galinsoga parviflora*) or species affecting human health (*Ambrosia artemisiifolia*). Besides these taxa, already exerting impacts in the Czech Republic, the 113 taxa with ecological impacts in Europe include 45 that we currently classify as naturalized; some of them belong to population groups that exhibit symptoms of starting spread and their impact in the near future is likely (e.g. *Abutilon theophrasti*, *Lepidium virginicum* and *Senecio inaequidens*). Finally, for 35 taxa that occur as casual in the Czech Republic ecological or economic impact is documented from elsewhere in Europe; this group includes some noxious invaders (e.g. *Elodea nuttallii*, *Rosa rugosa* and *Solidago graminifolia*) that should be monitored to enable early action should their population dynamics change (Appendix 2).

### Notes on the classification of taxa

The present update of the 10 years old data yielded a number of changes to the taxa listed, and their invasion and residence time statuses. These changes are due to several reasons. First, they reflect the real changes in species' behaviour and their invasion dynamics over the last decade. Second, the interest in and knowledge of alien plants has improved considerably as a result of intensive research in biological invasions in the Czech Republic during this period. Third, the more conservative approach towards what should be considered native or alien also brought about changes in the species list, and finally, introducing the

population-based approach to the classification of taxa adopted here (Blackburn et al. 2011) resulted in shifts in invasion status.

The main change in approach relative to the previously used scheme concerns a strict focus on the current state of a taxon's populations in a region. This allowed us to take into account and quantify categories that refer to unsuccessful invasions – the 'invasion failure' and 'boom and bust' phenomena as defined by Blackburn et al. (2011). This is reflected namely in classifying taxa that formed self-sustained populations in the past, some assumed to have been invasive (and labelled post-invasive in Pyšek et al. 2002), as casual, suggesting the reversed trajectory along the INIC (Fig. 2). Although they would not be classified as casuals, should the criterion of relying on repeated introduction of propagules, which is part of the traditionally accepted definition, be strictly followed (Richardson et al. 2000, 2011), we believe that the criterion of population self-sustainability is a more important one, reflecting closely the population dynamics in both directions along the INIC. This approach is further supported by the fact that many of these taxa are red-listed or missing for a long time, which strongly argues against self-sustainability of their populations. This group includes also many archaeophytes that have never been planted indicating that their occasional occurrence is due to long-term survival in and occasional germination from seed banks.

Consequently, the number of invasive taxa is substantially smaller than in the previous catalogue (50 neophytes and 11 archaeophytes in the present study compared to 69 neophytes and 21 archaeophytes, respectively, in Pyšek et al. 2002). A decrease this dramatic is due to the newly adopted conservative approach; unlike in the previous account, the emphasis here was on ongoing spread as a major criterion. The lower numbers do not mean that the problems with invasive plants in the Czech Republic are diminishing; rather the opposite is true as indicated by species that started to spread recently. In conclusion, we believe that the more rigorous approach to separating invasive species from naturalized makes the current assessment of species status more comparable with other parts of the world, especially those that experience serious problems with invasions, and forms a sounder basis for managing plant invasions at the national scale.

See <http://www.preslia.cz> for Electronic Appendices 1,2

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## Souhrn

Práce přináší úplný seznam nepůvodních taxonů zaznamenaných na území České republiky; je aktualizací a doplněním předchozího seznamu publikovaného v roce 2002. Zahrnuje nové údaje shromážděné za poslední desetiletí a přehodnocuje zařazení a status některých druhů, vyplývající z rozvoje taxonomického poznání. Nepůvodní flóra České republiky zahrnuje 1454 taxonů, které jsou uvedeny v Apendixu 2 s informacemi o taxonomické příslušnosti, životní formě, oblasti původu, invazním statusu (zda jde o druh přechodně zavlečený, naturalizovaný avšak neinvazní, nebo invazní), charakteru výskytu v krajině, době zavlečení (archoefyt nebo neofyt), způsobu introdukce do země a u neofytů o datu prvního nálezu. Oproti původnímu katalogu je uveden počet typů biotopů, ve kterých se druh vyskytuje, pokryvnost v rostlinných společenstvech a impakt. Podíl zavlečených druhů v české flóře je značný: tvoří jej 350 (24,1%) archoefytů a 1104 (75,9%) neofytů. Nárůst počtu taxonů oproti původnímu katalogu, který uváděl 1378 taxonů, vyplývá z toho, že bylo přidáno 151 taxonů. Celkem 75 (39 archoefytů a 36 neofytů) bylo naproti tomu vypuštěno; značná část tohoto počtu jde na vrub přeřazení 41 taxonů mezi původní druhy, a to vesměs na základě archeobotanických dokladů. Přírůstky na seznamu představují taxony nově objevené a uvedené v botanické literatuře od roku 2002, taxony zařazené na základě excerptce dřívě opominutých zdrojů či revize zdrojů použitých, nebo přehodnocení statusu některých taxonů tradičně považovaných za původní. V některých případech jde o infraspecifické taxony, které nebyly dřívě v české flóře rozeznávány. Seznam obsahuje 44 taxonů, které jsou uváděny pro Českou republiku poprvé jako zavlečené, nebo pro něž je podán první důkaz o jejich zplaňování: *Abies concolor*, *A. grandis*, *A. nordmanniana*, *Avena sterilis* subsp. *ludoviciana*, *A. xvilis*, *Berberis julianae*, *B. thunbergii*, *Bidens ferulifolius*, *Buddleja alternifolia*, *Buglossoides incrassata* subsp. *splitgerberi*, *Buxus sempervirens*, *Corispermum declinatum*, *Cotoneaster dielsianus*, *C. divaricatus*, *Euphorbia myrsinites*, *Gleditsia triacanthos*, *Helleborus orientalis*, *Hieracium heldreichii*, *Koeleria paniculata*, *Lonicera periclymenum*, *Lotus ornithopodioides*, *Malus baccata*, *M. pumila*, *Miscanthus sacchariflorus*, *Morus alba*, *Muscari armeniacum*, *Paonia lactiflora*, *Pennisetum alopecuroides*, *Pinguicula crystallina* subsp. *hirtiflora*, *P. grandiflora* subsp. *rosea*, *Podophyllum hexandrum*, *Pyracantha coccinea*, *Rhodotypos scandens*, *Rumex patientia* × *R. tianschanicus* 'Uteuša', *Salix cordata*, *Sarracenia purpurea*, *Sasa palmata* 'Nebulosa', *Scolymus maculatus*, *Spiraea japonica*, *Tagetes tenuifolia*, *Thuja occidentalis*, *Vaccinium corymbosum* a *Viburnum rhytidophyllum*. Komentáře ke všem přidaným nebo vypuštěným taxonům jsou uvedeny v Apendixu 1. Z celkového počtu 1454 taxonů je jich 985 klasifikováno jako přechodně zavlečené, 408 jako naturalizované a 61 jako invazní. Úbytek invazních taxonů oproti původnímu katalogu je důsledkem konzervativnějšího přístupu: za invazní jsou považovány pouze ty taxony, které se v současnosti šíří. Mezi neofyty převládají přechodně zavlečené taxony (76,7 % ze všech neofytů, ale jen 39,4 % archoefytů), mezi archoefyty naturalizované (57,4 % versus 18,8 % neofytů). Pokud jde o podíl invazních druhů, není mezi oběma skupinami statisticky průkazný rozdíl. Z celkového počtu 1104 neofytů jich 250 vymizelo (byly pozorovány pouze jednou nebo několikrát a z lokality vymizely nebo nebyly zaznamenány po dlouhou dobu); 23,3 % jich zdomácnělo a 4,5 % se stalo invazními. Vedle tradiční klasifikace postavení druhu v invazním procesu byly taxony klasifikovány do 18 populačních skupin, definovaných na základě dlouhodobých trendů v metapopulační dynamice, současného stavu populace na území ČR a přísunu diaspor z kultury. Tato podrobná klasifikace umožnila kvantifikovat, v jaké fázi invazního procesu dochází ke „ztrátám“ a jak jsou tyto ztráty velké. Podle toho, zda zahrneme do srovnání zavlečené a původní flóry specifické kategorie taxonů (vymizelé a vyhybnulé, křížence), tvoří nepůvodní taxony 29,7–33,1 % z celkové flóry. Pokud vyčíslíme podíl pouze pro zdomácnělé, tedy trvale přítomné složky zavlečené flóry, dospějeme k 14,4–17,5 %. Analýza roků prvního nálezu, který je k dispozici pro 771 neofytů, ukazuje, že nepůvodní druhy přibývají v květeně České republiky stálým tempem; extrapolujeme-li tato data na všechny neofyty, lze předpovědět, že do roku 2050 by jejich počet měl vzrůst na 1264. Přes polovinu taxonů (747, tj. 51,4 %) bylo zavlečeno alespoň zčásti prostřednictvím kultury, zbývajících 48,6 % neúmyslně. Archoefyty jsou obecně v krajině hojnější a obsazují širší spektrum stanovišť než neofyty; ty naopak dosahují v průměru větší pokryvnosti v invadovaných společenstvech. Práce dále analyzuje složení nepůvodní flóry z hlediska příslušnosti k rodům a čeledím, oblasti původu a životní formy.

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Appendix 1. – Comments on taxa that represent changes against the previous Catalogue of alien plants of the Czech Republic (Pyšek et al. 2002).

### Changes of names, difficult cases and corrections of earlier misidentifications

Compared to the previous version of the catalogue (Pyšek et al. 2002), 124 names were changed due to nomenclatural reasons or development in taxonomic opinion (Electronic Appendix 1). Additional seven taxa are listed under a different name due to the reidentification; their names refer to the same taxa which were erroneously determined in 2002 or their taxonomic classification has changed. These taxa are commented below and represent additions to the alien flora of the country.

*Azolla filiculoides* was listed as *A. caroliniana* in Pyšek et al. (2002), based on treatment in the Flora of the Czech Republic (Křísa in Hejný & Slavík 1988). The taxonomy of the New World *Azolla* has been controversial for a long time. The number of distinguished species varied and different characters were used for their identification. However, Evrard & Van Hove (2004) in their recent thorough investigation based on morphological, molecular and physiological data concluded that only two species can be distinguished taxonomically in America. They revealed that the type specimen of *A. caroliniana* belongs to the species described earlier as *A. filiculoides*, and the fern usually identified as *A. caroliniana* by many authors should be correctly named *A. cristata*. Although both species were recorded as introduced in Europe, only *A. filiculoides* is widespread, whereas *A. cristata* was apparently documented only from the Netherlands. Plants recently collected in the Czech Republic are identical with *A. filiculoides* (coll. and det. Z. Kaplan, PRA, rev. C. Van Hove). The other species, *A. cristata* (*A. caroliniana* auct.), has apparently never occurred in the country as introduced or escaped.

*Corispermum pallasii* was listed in Pyšek et al. (2002) as *C. leptopterum*. However, recent taxonomic studies revealed that the European plants are conspecific with the Siberian ones, described much earlier as *C. pallasii* (Mosyakin 2003). Vymyslický & Grulich (2004), reporting on their find of *Corispermum* from Ivančice, distr. Brno, suggested that southern Moravian plants correspond to *C. canescens*, which is native to Hungary. However, based on a careful re-examination of specimens from BRNU and PR (J. Danihelka), we believe that all *Corispermum* specimens so far collected in the Czech Republic, with the only exception of *C. declinatum* (see below), most likely belong to *C. pallasii*. The earliest documented record of this species is from 1933 (ex herb. F. Hrobař, PR). At present, *C. pallasii* occurs in two populations consisting of thousands of plants in sand pits near Bzenec, southern Moravia, from where it is spread with traded sand to other places.

*Eriochloa punctata*. Three *Eriochloa* species were reported in the literature from the Czech Republic: *E. ramosa* from a wool-processing factory Mosilana in Brno (Dvořák & Kühn 1966, Grüll 1979) and *E. punctata* from railway station in Brno (Grüll 1979); these two species are given in the Flora of Dostál (1989), who in addition lists *E. procera*, all as casual wool aliens introduced to Brno. Actually, the names *E. procera* and *E. ramosa* refer to the same taxon, with the former accepted as its correct name (Zuloaga & Morrone 2003, Shouliang & Phillips 2006). The plant reported as *E. ramosa* by Dvořák & Kühn (1966), collected by F. Kühn in 1960, was deposited in BRNU in 1972 under the name *E. punctata*; obviously, J. Dvořák re-determined the plant before depositing it in the herbarium. Comparison of the specimen collected by F. Kühn in 1960 and another specimen collected by F. Grüll in 1965 (reported by Grüll 1979) has shown that both of them very likely represent the same species, most probably *E. punctata*, as already suggested by J. Dvořák (rev. J. Danihelka). Consequently, the species listed as *E. procera* in Pyšek et al. (2002) is in fact *E. punctata*, the same as found by Grüll (1979).

*Gilia achilleifolia*. Another species of the genus, *G. multicaulis*, is listed in Pyšek et al. (2002), based on a note in the Flora of the Czech Republic (Křísa in Slavík 2000) that it is planted and rarely escapes from cultivation, without further details. In 2005, two flowering plants of *G. achilleifolia* were reported growing in the Stárkovský les forest near Lanžhot, southern Moravia, on a forest clearing along a road, together with *Legousia pentagonia*. They were probably introduced to the site with forestry vehicles (Řehořek & Lososová in Hadinec & Lustyk 2009). Since *G. multicaulis* is sometimes classified as *G. achilleifolia* var. *multicaulis*, we included only *G. achilleifolia* as it is possible that the above reports refer to this taxon.

*Hieracium heldreichii* agg. Listed in Pyšek et al. (2002) as *H. pannosum*, a cultivation relict. In the 1930s it was introduced at Kunětická hora hill near Pardubice (eastern Bohemia) and is still persisting there. The species, originally determined as *H. pannosum* by J. Holub, has been now re-identified by Z. Szelağ as *Hieracium* sp. ex *H. heldreichii* agg. The species is native to the Balkan Peninsula.

*Rodgersia pinnata*. The species reported in Pyšek et al. (2002: Fig. 1b) as *R. aesculifolia* was misidentified. The mistake was corrected by Král et al. (2004c).

*Spiraea hypericifolia* subsp. *obovata* was listed as *S. crenata* in Pyšek et al. (2002), based on the escape from cultivation reported from ruins of the Skalka castle near Vlastislav, northern Bohemia, at the end of the 19th cen-



tury (Koblížek in Hejný & Slavík 1992). This report was based on erroneous determination of a herbarium specimen that belongs to *S. hypericifolia* subsp. *obovata* (Businský & Businská 2002).

### New taxa: additions to the alien flora of the Czech Republic

The following 151 taxa, not listed in Pyšek et al. (2002), represent additions to the alien flora of the Czech Republic:

*Abies concolor*, *A. grandis* and *A. nordmanniana*. Natural regeneration from seed produced by planted trees occurs in the Průhonice Park near Prague (J. Burda, pers. comm.).

*Acanthus hungaricus*. A rarely planted species in the Czech Republic, first recorded as escaped from cultivation in Praha (Prague)-Lipence in 1999. The population of ca 150 flowering plants, reproducing by seed and surviving winter, probably resulted from planting along the wall of a baroque farmstead in the early 1990s (Hadinec in Hadinec & Lustyk 2009).

*Acer tataricum* was part of the Czech flora in the Subatlantic period but became extinct (Opravitel 1967). Its modern presence is due to escapes from cultivation and subsequent naturalization, with the first record of planting in 1835 (Koblížek in Slavík 1997a). In 2004, it was recorded regenerating in the Hevlínské jezero Nature Reserve, distr. Znojmo, southern Moravia (Čáp & Koblížek in Hadinec et al. 2005 as var. *torminaloides*). Self-sown plants established from seed were further observed in the vicinity of planted individuals in numerous locations in Prague (Suchdol, Černý Most and Libeň; recorded by J. Sádlo in 2011–2012).

*Actinidia deliciosa* was first recorded in the wild at the channelled stream of Botič in Prague in 2008, forming a population of seven sterile plants, originated from seed of the kiwi fruit (Hadinec et al. in Hadinec & Lustyk 2008). The first report in Europe of its occurrence outside cultivation is from Germany in 1998 (Kasperek 2003), followed by records in other countries and natural habitats. Seeds germinate well, plants spread vegetatively and survive mild winters. Populations in suitable climatic conditions can be therefore considered as likely candidates for naturalization and spread (Hadinec et al. in Hadinec & Lustyk 2008).

*Ageratina altissima* occasionally escapes from cultivation, with so far the single documented record from the vicinity of the Ostravice railway station in northeastern Moravia in 1979 (Slavík in Slavík & Štěpánková 2004).

*Allium cristophii*. A commonly planted species, found in a scrub near Kostomlaty, central Bohemia, in 1994. Occasional escapes from gardens can be expected also in other places, but since the bulbs are consumed by rodents, its naturalization is unlikely (Krahulec & Lepší in Hadinec & Lustyk 2009).

*Allium roseum*. In 2005 a population of 18 plants was recorded in Hojná Voda, southern Bohemia, at a site that is probably a long abandoned garden, and it was still present there in 2009; further spread cannot be excluded as the species is a prolific bulbil producer (Krahulec & Lepší in Hadinec & Lustyk 2009).

*Allium stipitatum*. A frequently planted species, found once escaped from cultivation along a road in Hradčany, central Bohemia, in 2008. Occasional escapes from gardens can be expected due to frequent planting but naturalization is unlikely because bulbs are consumed by rodents (Krahulec & Lepší in Hadinec & Lustyk 2009).

*Allium zebdanense*. First documented from abandoned garden allotments in Praha-Střížkov in 2006, but the species is known to grow spontaneously for several decades in the Botanical Garden of Charles University in Prague. It has not been reported escaped from cultivation from other central European countries as yet, but further records from the wild are likely to appear in the future because plants produce a number of small bulbils providing the species with potential to spread (Krahulec & Marek in Hadinec & Lustyk 2006).

*Amelanchier alnifolia* was first recorded outside cultivation in Český Krumlov, southern Bohemia, in 2008 (Lepší & Lepší 2008), but it was uncertain if the plants were escapees from cultivation or remnants from planting. Since then it has been repeatedly observed as escaping from cultivation (M. Lepší, pers. comm.).

*Amelanchier spicata*. First documented from the wild by a herbarium specimen collected near Havlíčkův Brod in 1880, the species was recently reported from 32 localities scattered over the country, growing naturalized in scrub, oak and pine forests, their margins and in river valleys. A recent review revealed that it is the most frequently planted and escaping species of the genus in the Czech Republic (Lepší & Lepší 2008).

*Ammobium alatum* is planted as an ornamental plant and rarely escapes from cultivation (Slavíková in Slavík & Štěpánková 2004). Outside cultivation it is reported from several sites in the Železné hory Mts, with the first record from 1942 (Hadač et al. 1994), and from a ruderal site in Bruntál, northern Moravia (Hradílek et al. 1999).

*Amsinckia lycopsoides* was found once growing in a lawn in Brno-Bohunice in 2000, probably introduced with soil or as a seed admixture. The population was destroyed by planting of shrubs in the following year (Rotreklová & Řehořek in Hadinec & Lustyk 2009). It was also growing on rocks adjacent to a private garden in Vimperk, southwestern Bohemia, following an unintentional introduction. It survived there for several years in the 1990s (F. Krahulec, pers. obs.).

*Anthemis cotula* × *Cota tinctoria* (syn. *Anthemis xbollei*). This hybrid was found once in Břeclav-Poštorná, southern Moravia (1994, BRNU; Dvořáková in Slavík & Štěpánková 2004).

*Anthemis cretica* subsp. *columnae*. Status of this taxon in the Czech botanical literature is unclear. It was reported from three localities since 1871, last observed in the 1920s (Dvořáková in Slavík & Štěpánková 2004). Given the scattered distribution in the mountains of southwestern Europe and northern Africa, and the fact that Czech localities are rather isolated occurrences north of the Alps, we follow the treatment in Euro+Med Plantbase (Greuter 2006–2009), which considers the species as alien to the Czech Republic and assigns Czech populations to *A. cretica* subsp. *cretica*.

×*Anthemiatricaria dominii* (= *Anthemis cotula* × *Matricaria chamomilla*). A single plant was found at the Vltava river bank in Praha-Zlíchov in 1929 (Rohlena, PRC; Dvořáková in Slavík & Štěpánková 2004).

*Artemisia alpina*. One population was observed in Újezd near Brno outside a garden in a partly mown lawn. Two young plants were found growing at a railway bank 80–100 m from the source population, suggesting that the species reproduced by seed at the locality, and died later due to summer drought (Čáp in Hadinec & Lustyk 2011).

*Asparagus officinalis* subsp. *officinalis*. This old cultural vegetable and medicinal plant has been widely cultivated in central Europe since the 16th century, and at the territory of the Czech Republic since the 18th century. It is naturalized in warm parts of the country. Some localities are remnants of cultivation in gardens or fields (Bělohávková & Slavíková in Štěpánková 2010).

*Avena sterilis*. Two subspecies of the species given in Pyšek et al. (2002) are newly recognized in the country. *Avena sterilis* subsp. *sterilis* was planted in botanical gardens and nurseries in the 19th and the first half of the 20th century, with the first record of planting in the Kačina castle in 1836, from where it occasionally and temporarily escaped. The oldest records are from ruderal sites in Praha-Zlíchov (1922) and from a railway station Praha-Michle (1923). However, these records are not supported by herbarium specimens. The second subspecies, *A. sterilis* subsp. *ludoviciana*, was also formerly planted in botanical gardens, and occasionally found in waste places in Semily (1966 V. Jehlík, PRA), Prague (1968 Z. Kropáč, PRA) and Malý Budíkov near Humpolec (1965 A. Čábera, CB). Čábera (1967) published his find under the name *A. strigosa* (J. Zázvorka in Štěpánková in prep.).

*Avena xvilis* (= *A. fatua* × *A. sativa*). Individual plants of this hybrid are occasionally found in the fields of *A. sativa* within the distribution range of *A. fatua* (J. Zázvorka in Štěpánková in prep.).

*Berberis julianae*. Self-sown young shrubs originated from a source population nearby were observed in a park plantation in Praha-Klánovice (50°05'42.2"N, 14°40'10.2"E) in 2010 (J. Sádlo).

*Berberis thunbergii*. A young shrub originated most probably from seed was found nearby a planting site in Stará Červená Voda, northern Moravia (50°19'44.9"N, 17°12'05.2"E) in 2011 (J. Sádlo).

*Beta vulgaris* Altissima Group. The annual weedy types that started to spread in the 1980s have been introduced with beet seed from southwestern Europe (Skalický & Pulkrábek 2006), where they originated through the pollination of cultivated sugar beet (*Beta vulgaris* Altissima Group) with the pollen of the wild *B. vulgaris* subsp. *maritima* or of weedy annual plants derived from some cultivars of the Altissima Group. For this reason, the assignment to the Altissima Group is a pragmatic solution, not fully reflecting the genetic nature of the plants concerned. A survey from 2006 revealed that “weed beet” occurred on 70% of farms over the Czech Republic growing sugar beet and on 4% of those its density exceeded 1000 plants/ha (Landová et al. 2010). The issue requires further study; the populations of weedy plants are now classified as invasive neophyte.

*Bidens ferulifolius*. Planted in flowerpots in towns and escaping from cultivation, growing in paving interstices and surviving temporarily, but not over winter (Mladá Boleslav and Náchod, P. Petřík; Bechyně and Prague, J. Sádlo). A vigorous population that was later destroyed by remodelling of the pavement was observed at the railway station in Jablonec nad Nisou, northern Bohemia, in 2006 (P. Petřík, pers. comm.).

*Buddleja alternifolia*. Several young shrubs up to 1.5 m tall, growing from seed, were recorded in ruderalized shrubland at abandoned factory yard in the Mostecká street, Chomutov, northern Bohemia (50°27'51.8"N, 13°25'12.7"E) in 2008 (K. Štajerová). The plants were present at this locality still in 2011 (J. Sádlo).

*Buglossoides incrassata* subsp. *incrassata*. A population of about 15 plants was observed at a railway station in Strážnice (distr. Hodonín, southern Moravia) in 2005 and first reported as *Lithospermum arvense* subsp. *sibthorpiantum* (Jongepier et al. in Hadinec & Lustyk 2006), but the revision of herbarium specimens (BRNU) revealed that the identification was erroneous (rev. J. Danihelka, conf. E. Zippel, Berlin). The population still occurred in the locality in spring 2012 when about 11 m long strip with 10–15% cover of flowering plants was recorded between the rails (J. Jongepier, pers. comm.).

*Buglossoides incrassata* subsp. *splitgerberi*. This subspecies was first reported from the Czech Republic as *B. arvensis* subsp. *sibthorpiana* by Clermont et al. (2003), based on the specimens issued as no. 1654 of Fl. Exs. Reipubl. Social. Českoslov. However, Jongepier et al. (in Hadinec & Lustyk 2006) considered this record erroneous and assigned duplicates of that gathering to *B. arvensis*. The presence of this subspecies is now confirmed by

numerous herbarium specimens (rev. J. Danihelka, conf. E. Zippel) from both Bohemia and Moravia, collected mostly from ruderal sites and dry grasslands.

*Bupleurum pachnospermum*. The only find from the Czech Republic (1885 A. Oborny, PR) originates from the Dyje river valley near Znojmo, southern Moravia, and was reported by Snogerup & Snogerup (2001). It is considered here as a neophyte in accordance with the treatment for Austria (Fischer 2008) and in the Euro+Med Plantbase (Hand 2011).

*Buxus sempervirens*. Ongoing regeneration from seed is observed in the surroundings of planted shrubs in the Průhonice Park near Prague (J. Burda, pers. comm.). Several young shrubs were found in a natural ravine forest at Medník hill south of Prague, probably from self-seeding of shrubs planted near a cottage (2010 J. Sádlo).

*Calystegia hederacea*. The species has been observed since ca 25 years ago growing on settling fields of a sugar refinery in Kojetín, central Moravia (Trávníček & Dančák 2011).

*Campanula lactiflora* is documented from one locality at Kladská (distr. Cheb, western Bohemia), where it occurs at the margin of a peat meadow (first collected in 1973, F. Grüll, BRNU as *C. latifolia*), probably as a consequence of plantings in the area of a hunting lodge built in 1877–1878 (Řehořek in Hadinec & Lustyk 2009). Previously reported naturalized occurrence of this species in the former Czechoslovakia by Fedorov (1976) is doubtful and it is unclear on what data it was based (Řehořek in Hadinec & Lustyk 2009).

*Caragana arborescens*. Reported as escaping from windbreaks in southern Moravia, where it is extensively planted (Tichá 2004).

*Capsella rubella*. A population consisting of tens of plants was found in 2006 in a camping site Babí hora near Hluk, distr. Uherské Hradiště, SE Moravia, probably introduced by foreign tourists. The species is native to southern Europe and reported from several countries north of its native distribution, e.g. Austria, Switzerland, Germany, Belgium and the UK (Jongepier in Hadinec & Lustyk 2007).

*Carex grayi*. A species occasionally planted in botanical and private gardens; three plants were found on a ruderal site at the railway station Zastávka u Brna, southern Moravia, in 2010. The plants did not persist until next year due to construction works at this site (Hrbáč in Hadinec & Lustyk 2012).

*Centaurea carniolica*. A herbarium specimen collected in Hradec Králové was found in PRC (1914 K. Prokeš; Koutecký 2008).

*Centaurea xjavorcae* (= *C. nigrescens* × *C. oxylepis*). A hybrid involving the casual neophyte *C. nigrescens* was collected in 1933 near Litovel, distr. Olomouc (Novák, PRC; Koutecký & Štěpánek in Slavík & Štěpánková 2004).

*Centaurea xextranea* (= *C. jacea* × *C. nigrescens*). Another hybrid involving *C. nigrescens*, listed under the name *C. xthaiszii* in the Flora of the Czech Republic, is documented with certainty from two localities but its occurrence is probable in other localities where mixed populations of both parents occur (Koutecký & Štěpánek in Slavík & Štěpánková 2004).

*Centaurea transalpina*. Collected in Orlík nad Vltavou, southern Bohemia, around 1900 (K. Domin, PRC; Koutecký 2008).

*Cichorium endivia*. Escape from cultivation of about 40 plants in Brno-Lesná close to a bus stop was recorded in 1968 (Dvořáková in Slavík & Štěpánková 2004). In 2009, several tens of plants were recorded in an old field in the military training area of Boletice, distr. Český Krumlov, southern Bohemia (Grulich in Hadinec & Lustyk 2011). The species was most likely introduced to the country as a vegetable in the 16th century (Petráčeková et al. 1982).

*Cirsium xmoravicum* (= *C. arvense* × *C. rivulare*). This hybrid between an archaeophyte and a native species is known from one locality between the villages Ústí and Skalička, distr. Přešov, central Moravia (Bureš in Slavík & Štěpánková 2004).

*Comvallaria majalis* var. *transcaucasica*. Planted in a hospital in Klatovy, western Bohemia, from where it spread into a nearby park and formed a viable population, which is still present. The introduction was by a local botanist M. Král in the 1970s (Čížek & Král 2009, Slavík & Zázvorka in Štěpánková 2010).

*Coreopsis lanceolata* was found in 1962 at Kunětická hora hill near Pardubice, eastern Bohemia, where it was surviving for several years, with most plants remaining sterile (Bělohávková in Slavík & Štěpánková 2004).

*Cotispermum declinatum* was collected in Praha-Stodůlky in 1960 (S. Hejný, PRC, det. J. Danihelka). The specimens come from the same locality as that of *C. pallasi*, treated in the Flora of the Czech Republic under the name *C. leptospermum* (Tomšovic in Hejný & Slavík 1990). This source notes that the collection included another species that remained unidentified, probably *C. squarrosum* (= *Agriophyllum squarrosum*) or *C. orientale*.

*Cotoneaster dielsianus*. Ongoing regeneration from seed is observed in the Průhonice Park near Prague (J. Burda, pers. comm.).

*Cotoneaster divaricatus*. A frequently planted species of the genus escaping from cultivation by seed dispersed by birds. It was recorded, for example, in Mikulov and Brno (J. Danihelka) or Praha-Klánovice (a fruiting

shrub in a woodland near railway station; J. Sádlo 2010 BRNU, det. J. Danihelka and V. Řehořek, rev. J. Koblížek).

*Cotoneaster zabelii*. First reported from Černvír, distr. Žďár nad Sázavou, where several older shrubs and saplings grow on a rock above the Svratka river ca 100–150 m from the maternal shrub planted at a nearby house (Čáp in Hadinec & Lustyk 2007).

*Crocus tommasianus*. The species was deliberately planted in the wild at Velká hora hill near Srbsko, Bohemian Karst, central Bohemia, before WWI, where it survived for several years, last observed in 1931 (Chrtek in Štěpánková 2010).

*Crocus xrococsmiiflora*. Frequently planted hybrid, originated in cultivation, sometimes planted also in the wild or rarely escaping from cultivation (Chrtek in Štěpánková 2010).

*Cyperus glomeratus*. Rarely found escaped from cultivation (Kubát et al. 2002), first recorded in the Brdy Mts, central Bohemia, in 1895, later collected near Protivín, southern Bohemia, in 1947 and in Brno in 1965 (K. Kubát in Štěpánková in prep.).

*Darmera peltata*. The species was first found growing along a wet road ditch near Lukavice, western Bohemia, in 1960. The locality was later destroyed and the species was found again at the periphery of Klatovy town, western Bohemia, in 2004. The latter population consisted of a group of fruiting plants growing close to private gardens, and plants that grew from seed, scattered along a nearby stream (Král et al. 2004c). A herbarium specimen is deposited in PR (O. Šída, pers. comm.).

*Digitaria ciliaris*. The occurrence of this species in the Czech Republic was first reported by Wilhalm (2009) who refers to a herbarium specimen from Podhůří, distr. Trutnov, collected on a decayed waste from cotton processing in 1908 (V. Cypers, BC). Another specimen from the same locality, collected one day later, is deposited at BRNU (no 5272, leg. V. Cypers). It needs to be noted that the name *Panicum ciliare* Retz., a basionym of the name *D. ciliaris*, repeatedly appears in herbaria and floristic literature from the Czech Republic since the first half of the 19th century, but based on morphological descriptions and numerous gatherings, the plants actually represent *D. sanguinalis* var. *pectiniformis*, which we consider a naturalized archaeophyte. The reference in Wilhalm (2009) to plants collected by V. Cypers is therefore the first record of this casual neophyte in the country (see Danihelka in Hadinec & Lustyk 2011 for details and references therein).

*Dittrichia graveolens*. Thirteen localities from 2008–2009 are listed from the Czech Republic in a recent paper reporting it as a new species of the Czech flora (Raabe in Hadinec & Lustyk 2009). This Mediterranean species has been spreading rapidly in Central Europe, following the first reports at the beginning of the 1980s and 2000s in Germany and Austria, respectively, where it forms extensive stands in highway medians. In the Czech Republic, it was very abundant along the D1 highway Prague – Brno already in 2008, forming large stands close to Brno and Velké Meziříčí (Raabe in Hadinec & Lustyk 2009). In 2011, it was seen at other 10 sites between km 27 and km 106 (U. Raabe, pers. comm.). At present it spreads further southeastwards to Bratislava, and it is also recorded from the D11 highway (J. Rydlo, pers. comm.) and the Nymburk district, central Bohemia (F. Krahulec, pers. observ.). The species is thus classified as naturalized even though the first documented record from the Czech Republic is very recent.

*Egeria densa*, planted in aquaria, was observed two times in the wild: in a pond in the Kinského sady park in Prague in 1991, and in a village pond in Borek near České Budějovice, southern Bohemia. The finds are most likely due to deliberate release; the plants do not survive winter in local conditions (Kaplan in Štěpánková 2010).

*Elaeagnus commutata* was planted on a spoil heap Antonín in the Sokolov coal mining area, northwestern Bohemia, during rehabilitation activities in the first half of the 1970s (Dimitrovský 2001) and spread over an area of several hectares, first along roads but gradually also elsewhere, forming dense stands in places (P. Krása & V. Grulich, pers. comm.).

*Eragrostis pectinacea*. The species was first collected in a botanical garden in Olomouc (1937 O. Leneček, PRC) and one tussock was observed in Pardubice, eastern Bohemia, in 2000–2001 (P. Špryňar, PRC). It was reported as a new alien species in the Czech flora based on a thorough revision of herbarium collections of the genus (Špryňar & Kubát 2004).

*Eragrostis pilosa* was traditionally considered as native based on a near-natural character of the locality from which it has been known since the beginning of the 20th century, but this view was recently reconsidered based on a revision of the genus in the country (Špryňar & Kubát 2004). The species was first collected at Znojmo-Hradiště, southern Moravia, in 1902 (A. Wildt, BRNM) where it still grows, and reported from several other localities in warm regions, including slaughter house in Praha-Holešovice where it was surviving for 30 years. It is still included among Red List species as a critically endangered (Holub & Procházka 2000), based on the Hradiště locality. We follow the opinion of Špryňar & Kubát (2004) and consider it as a naturalized neophyte.

*Euphorbia agraria*. A single plant was found growing on abandoned valley terraces close to Komořany, distr. Vyškov, in 2005, and disappeared by 2008 when the grassland was mown. The find represents the first report not only for the Czech Republic but the whole of Central Europe (Čáp 2008, Čáp in Hadinec & Lustyk 2009).

*Euphorbia myrsinites* was found in 1998 growing on garden waste at an abandoned quarry on Svatý kopeček hill near Mikulov, southern Moravia (J. Danihelka). In 2009, several tens of plants were found in a sand pit in Tasovice near Znojmo, southern Moravia. Most likely, deliberate planting of the species in the wild was followed by its proliferation by seed (J. Sádlo).

*Euphrasia salisburgensis* and *Gentianella obtusifolia* subsp. *norica*. These two species were most likely deliberately introduced to the Rýchory range, Krkonoše Mts, at the end of the 19th century (Štursa et al. 2009), and repeatedly collected during the first half of the 20th century mostly around the Rýchorská studánka spring. The idea of deliberate introduction into the wild is supported by the species being not reported as a part of local flora by botanists working in the area in the 19th century (A. F. Pax, R. Traxler).

*Fallopia ×convolvuloides*. A hybrid between an archaeophyte *F. convolvulus* and a native species *F. dumetorum*, occasionally found where both species grow together (Chrtek in Hejný & Slavík 1990).

*Ferulago confusa* was collected at two localities: in an oak forest in the Koda Nature Reserve near Tetín, distr. Beroun, central Bohemia, in 1998 (one plant), and in a dry grassland in the Kamenný vrch Nature Reserve in Brno-Starý Lískovec in 2002. The species still occurs at the latter site, with 2–3 flowering plants observed every year (O. Rotreklová, pers. comm.). It is not cultivated in the Czech Republic, except perhaps in some botanical gardens, and it is not reported as escaped from cultivation in the neighbouring countries. The way of introduction is therefore unclear, and given that both localities were discovered at about the same time, deliberate sowing cannot be excluded (Rotreklová & Řehořek in Hadinec & Lustyk 2009).

*Filago pyramidata* was collected at two localities, Olomouc and Olomouc-Černovír in 1833 and 1860, respectively (both specimens at W), and not observed since then (Wagenitz 1965). This corresponds to the fact that the species' native distribution was more extensive until the 19th century, allowing for introductions to the Czech Republic, but it has been retreating since then (M. Štech in Slavík & Štěpánková 2004).

*Gaillardia ×grandiflora* is a commonly cultivated ornamental hybrid, occasionally found escaping (Bělohávková in Slavík & Štěpánková 2004). It was recorded in Mikulov, southern Moravia, where the plants seeded for two years in 2003–2004 at the foot of a wall, and in Břeclav-Poštorná, southern Moravia (2003 J. Danihelka, MMI).

*Galium murale*. Five fruiting plants were recorded at the Albertov university canteen entrance in Prague in 2009, eight plants in 2010 and two plants in 2011. In Europe the species was up to now only reported as an alien from the UK and Belgium (Prančl in Hadinec & Lustyk 2012).

*Geranium purpureum* was first recorded at a railway station Hrušovany u Brna in 2005. Three years later it was found at all stations between Hrušovany and Brno (Růžička & Koblížek 2009). Further spread is likely in the near future.

*Gleditsia triacanthos*. The species occasionally occurs in near-natural vegetation. While it is not clear whether older trees are cultivation remnants or established spontaneously, a massive occurrence of seedlings was documented from an exposed bottom of the Prostřední rybník fishpond near Lednice, southern Moravia (2008 J. Danihelka, BRNU).

*Gratiola neglecta* was recorded at two sites near Lázně Bohdaneč, eastern Bohemia, in 2002, and at one site in the surroundings of Blatná, southern Bohemia, in 2008 (Šumberová & Ducháček 2009).

*Helianthemum nummularium* subsp. *nummularium*. Occasionally planted as a garden ornamental, reported to escape in Olomučany near Brno (Hrouda in Hejný & Slavík 1990).

*Helichrysum thianschanicum*. Plants usually assigned to this species are known to have occurred on Kunětická hora hill near Pardubice (Štech in Slavík & Štěpánková 2004), together with several other species associated with intentional introductions of many species that were planted at the locality in the 1930s by a nature history society from Pardubice (Pyšek et al. 2002). The record is based on a herbarium specimen collected in 1941 (V. Horák, MP; M. Štech, pers. comm.).

*Helleborus orientalis*. A hybrid population involving this species (see Jäger et al. 2008) persists outside cultivation in the Průhonice Park near Prague (P. Sekerka, pers. comm.).

*Herniaria incana*. The species was recorded in a mown dry grassland near Hříměždice, central Bohemia, in 1986 (Hlaváček 1989). It reproduced by seed and persisted in the locality until the beginning of the 1990s (Hlaváček & Pyšek 1992). Later it started to retreat due to changes in the management of the site (R. Hlaváček, pers. comm.).

*Hieracium mixtum*. A population of a flowering maternal plant and several juveniles was found growing on a stony slope along a hiking trail to Mt Praděd, Hrubý Jeseník Mts, at 1355 m a.s.l., in 2006. By 2010, the population increased and one of the juveniles was also flowering. The species is a triploid apomict not requiring pollination

for seed production, and is rarely planted as an alpine plant in rockeries, and traded by garden centres. Its occurrence most likely results from deliberate planting or sowing in the wild (Kocián & Chrtek in Hadinec & Lustyk 2011).

*Hordeum brevisubulatum*. A herbarium specimen collected in 1974 (M. Dvořáková?, BRNU 605154) on a waste place in a textile factory Brunka in Humpolec, distr. Pelhřimov, was identified as the first record of this species in the country. It was almost certainly introduced with wool of Soviet origin, most likely from southern Siberia or central Asia (Danihelka in Hadinec & Lustyk 2009).

*Hyacinthoides hispanica* was recorded escaped from cultivation near a fishpond in Prague and in a forest near Mašov, eastern Bohemia, in 2007 and 2008, respectively (Trávníček 2010, Hadinec & Lustyk 2012). Another plant was found in the Herštýn Nature Reserve near Kdyně, western Bohemia, in 2009 (P. Petřík, pers. comm).

*Hypericum annulatum*. A population of about 20 plants was recorded on a power plant fly ash heap near railway station at Oslavany, distr. Brno, in 2008 (Sutový 2010a, b, Hadinec & Lustyk 2012).

*Koelreuteria paniculata*. Copious regeneration from seed was observed in park plantations in Brno and Lednice, both in 2009 (J. Sádlo).

*Lamium xholsaticum*. A hybrid of the archaeophyte *L. album* with the native *L. maculatum*, assumed to occur rather frequently near the populations of its native parent (Dvořáková in Slavík 2000).

*Lathyrus hirsutus*. The species was considered native in the Flora of the Czech Republic (Chrtková & Bělohávková in Slavík 1995), but its native distribution range in southern Europe, character of habitats and namely the absence from old floras (e.g. Čelakovský 1868–1883) are arguments against its native status; we suggest it be classified as a neophyte but its status requires further study (see also Hadinec & Lustyk 2011).

*Legousia pentagonia*. Recorded in the Czech Republic for the first time in 2005, when several flowering plants were found on a forest clearing along a road near Lanžhot, southern Moravia, together with two plants of another casual neophyte, *Gilia achilleifolia*. The species was probably introduced to the site with forestry vehicles (Řehořek & Lososová in Hadinec & Lustyk 2009).

*Lilium bulbiferum*. Although some authors consider its localities in southern Bohemia as a margin of its native distribution, we classify the species as an archaeophyte, following the recent treatment in Flora of the Czech Republic (Hrouda in Štěpánková 2010).

*Lilium candidum*. A frequently planted species, occasionally surviving as a cultivation relic, or growing in places with deposited garden waste (Hrouda in Štěpánková 2010).

*Lolium xhybridum*. A hybrid between a neophyte *L. multiflorum* and the native *L. perenne* is reported to occur by Kubát et al. (2002).

*Lonicera periclymenum* is occasionally reported in the literature, but without the character of occurrence specified. Therefore it is in most cases difficult to decide whether the reports relate to surviving, originally planted shrubs, cultivation relics or escape. Extensive clonally spreading stands were recorded in ruins of the Ronov castle near Česká Lípa (50°37'13.3"N, 14°24'52.1"E) in 1994 (J. Sádlo) and in a wet forest margin near Doksy (50°34'20.7"N, 14°39'12.2"E) in 2010 (J. Sádlo), both northern Bohemia.

*Lotus ornithopodioides* is occasionally found on fodder plots in game preserves in southern Moravia, growing from seed most likely originating from Fodder Research Institute in Troubsko near Brno. It is documented by herbarium specimens from two sites: (i) Mikulov: Bulharská obora game reserve, fodder plot between a water hole and path along the fence, ca 4.1 km ENE–E of the town church (1997 J. Danihelka, MMI, det. T. Vymyslický); (ii) Lanžhot: a small forest meadow south of the bend of the Iklínská cesta forest road, 3.7 km SSE–S of the church (1996 J. Danihelka, MMI).

*Malus baccata*. Ongoing regeneration from seed is observed in the whole area of the Průhonice Park near Prague (J. Burda, pers. comm.).

*Malus fusca*. A young flowering shrub grown from seed was found in 2004 near Telnice, distr. Brno. The species was not observed in cultivation in the wider surroundings of the locality, suggesting probable dispersal by birds. Seeds collected at the locality germinated easily (Řehořek in Hadinec & Lustyk 2009).

*Malus pumila*. A species of unclear origin, introduced to Europe from the Southern Caucasus where it does not, however, occur in the wild (Dostálek in Hejný & Slavík 1992). It is known from the territory of the present Czech Republic since 1852. At present it is mostly planted as a rootstock for *M. domestica* and occasionally reported as escaped in the floristic literature from various parts of the country (Křivánek 2008).

*Malva sylvestris* var. *mauritanica*. The taxon was listed in Pyšek et al. (2002) at the species level, now both varieties occurring in the country are included (Appendix 2). This old variety of unclear origin is occasionally planted as a medicinal or ornamental herb and temporarily escapes from cultivation (Slavík in Hejný & Slavík 1992).

*Matricaria chamomilla*. The species is considered as an archaeophyte in Central Europe, following the treatment in the Flora of the Czech Republic. It is planted as a medicinal herb and is common throughout the country as a weed on arable land or at ruderal sites (Kubát in Slavík & Štěpánková 2004).

*Matricaria chamomilla* × *Tripleurospermum inodorum*. An intergeneric hybrid between two archaeophytes, so far only reported from Germany and the Czech Republic. Several plants were collected at two localities in Prague in 1929 (Rohlena 1930, Kubát in Slavík & Štěpánková 2004).

*Meconopsis cambrica*. A frequently planted ornamental species, reported to escape easily from cultivation. It was recorded spreading in an abandoned garden in Zahrady, distr. Děčín, northern Bohemia, in 2000 (Kubát in Härtel et al. 2002, Hadinec et al. 2003).

*Miscanthus sacchariflorus*. Several tussocks grown from seed were observed in a garden allotment in Ostrá, distr. Nymburk, central Bohemia, in 2003, and one young plant on a garden waste in a quarry near Velká Vápenná, Jeseníky Mts in 2010 (J. Sádlo).

*Morus alba* is reported in literature (Křivánek 2008), but in most cases it is difficult to decide whether the reports relate to surviving, originally planted trees, cultivation relics or escapes. Regeneration by seed is, however, reported from Slovakia, where the species is classified as naturalized (Medvecká et al. 2012).

*Muscari armeniacum* was reported as likely to escape from cultivation but not observed as such in the Flora of the Czech Republic (Hrouda in Štěpánková 2010). However, it was recorded in many localities in Prague and Mělník, central Bohemia (both J. Sádlo), and Brno and Mikulov, southern Moravia (both J. Danihelka).

*Muscari botryoides* is an archaeophyte with scattered distribution in the past, but not observed since the last record in 1995 (Hrouda in Štěpánková 2010).

*Opuntia polyacantha* is a taxonomically complex species, also reported under other names in the horticultural literature, e.g. *O. erinacea* var. *utahensis* (Bíba 2007). Here these two names are synonymized following a flora from the species' native range (Pinkava 2003). It is recorded from several localities in warmer regions, e.g. Lovoš hill near Litoměřice, northern Bohemia, Prague and Brno and their surroundings. Populations range from those of seedlings (Průhonice Park near Prague) to those of polycormons with estimated age of 20 years in the Skalky u přehrady Nature Reserve near Brno-Bystrc (L. Tichý, pers. observ.). It is assumed to have been deliberately planted in these localities (Hadinec & Kubát in Hadinec et al. 2004). The first observation of such plants comes from the Dalejský profil Nature Reserve in Prague in 1997 (Špryňar et al. 1998). The other species of the genus, *O. phaeacantha*, listed in Pyšek et al. (2002) is reported from Slánská hora hill in the town of Slaný, central Bohemia, surroundings of Prague, the České středohoří hills, northern Bohemia, and the Pavlovské vrchy hills, southern Moravia, assumed to persist following deliberate planting (Kubát et al. 2002, Pyšek et al. 2002).

*Paeonia lactiflora* escapes from cultivation in gardens, persists in abandoned nurseries and garden allotments, and on rubbish tips from garden waste; it regenerates vegetatively from rhizome segments. It was recorded as escaped e.g. in Praha-Kbely in 2011 (J. Sádlo).

*Pennisetum alopecuroides*. One flowering plant was found in Praha-Satalice, on stairs of a house, in 2002 (J. Sádlo).

*Physalis pubescens*. A single plant was recorded on a soil heap in Zlatá Koruna, distr. Český Krumlov, southern Bohemia, in 2001, but no longer found when the locality was revisited in 2002 (Lepší 2005).

*Pimpinella peregrina*. A population of this species scattered along about 300 m long strip on a ruderal site was recorded in Ústí nad Labem in 2011 (Nepraš et al. 2011). Its introduction was probably linked with recent remodelling of a railway corridor. Its spread in the neighbouring Saxony, observed since the 1990s, is attributed to grass seed used for revegetation following building activities (Nepraš in Hadinec & Lustyk 2012). Further spread in the Czech Republic thus cannot be excluded.

*Pinguicula crystallina* subsp. *hirtiflora* and *P. grandiflora* subsp. *rosea*. Both taxa were recorded on a tufa cascade in a forest near Tichá in the Beskydy Mts, distr. Nový Jičín, northern Moravia, in 2006, where it was probably deliberately planted. The population of the former taxon has considerably spread in the locality since then (A. Veleba, M. Chytrý).

*Podophyllum hexandrum*. Found at a forest margin by the Nový Herštejn castle near Kdyně (49°24'45.8"N, 13°04'00.2"E), western Bohemia, in 2009 by P. Slovák, close to an abandoned garden (P. Petřík, pers. comm.).

*Pontederia cordata* is occasionally planted as an aquatic ornamental in garden ponds, and recorded from several localities outside cultivation in 2004–2007. These occurrences are mostly due to deliberate planting in the wild, with plants surviving as cultivation relics. Plants found in the Labe river near Chvalovice (river km 62.91), central Bohemia, were obviously dispersed to the site by water and observed in two subsequent years, 2006 and 2007 (Kaplan in Hadinec & Lustyk 2009).

*Potentilla adscharica*. The species was first collected escaped in the Botanical garden of Charles University in Prague in 1947, then repeatedly at the then unfinished Prague – Brno highway in 1950–1956; both finds were

probably related to plants spreading from the botanical garden, and they are only two records of this species in Europe (Soják 2007).

*Potentilla radiata*. Repeatedly collected in the Průhonice Park near Prague in 1920–1926; the occurrence has not been confirmed since then (Soják 2007).

*Primula rosea*. A Himalayan species recorded for the first time in the Czech Republic at two sites in the Praděd Nature Reserve, Hrubý Jeseník Mts, in 2005. It is likely that this popular garden ornamental was deliberately planted in a spring fen where it occurs (Kočí in Hadinec & Lustyk 2007).

*Ptelea trifoliata* is reported growing along roads in Bruntál, northern Moravia (Opravitl 1961). A fruiting shrub was also seen at the fence of the Michelská plynárna gasworks in Prague in 1964 (Skalická & Svoboda 1971).

*Pteris multifida*. One plant was found growing in a wall crevice in Prague in 1998, but it was destroyed next year during the facade renewal (Ekrt in Hadinec & Lustyk 2011).

*Pulmonaria rubra*. Several populations were found scattered in different habitat types along ca 2 km of the Všenorský potok stream near Všenory, distr. Praha, in a woodland valley. The species was first collected in 2001, then again in 2002 but at the time of the first collection it was already growing at that site for some time (V. Větvíčka, pers. comm.). The species is very rarely planted in the Czech Republic as a garden ornamental. It is very likely that the escape from cultivation is related to a former experimental gardening centre, used as an acclimation garden of the Institute of Botany AS CR, which is located up the stream (Hadinec & Rydlo in Hadinec et al. 2004).

*Pyracantha coccinea*. A popular ornamental shrub, recently found escaping from cultivation with increasing frequency in urban shrubland and grassland, ruderal sites, usually spread by seed to a short distance (up to 100 m) from cultivated plants. Numerous localities were recorded in Prague in 2002–2012 (J. Sádlo). One shrub 4–5 m tall was also found in a shaded forest near the Koněpruské jeskyně caves, distr. Beroun, central Bohemia, in 2008 (R. Hlaváček, pers. comm.).

*Rhaponticum carthamoides*. The species started to be planted as a medicinal plant in the 1980s. It was first recorded escaped from cultivation in 1991 in a road ditch near Vlka, central Bohemia, not far from a field where it was planted. The second record, from 2003, refers to individual plants surviving on an abandoned field in Velký Osek, central Bohemia, after the cultivation has ceased (Řehořek in Hadinec et al. 2004).

*Rheum officinale*. Five localities are reported in the Novohradské hory Mts, southern Bohemia, one of them has been surviving since the 1980s (Lepší et al. 2006). Other localities found recently in mountainous areas of northern Bohemia (Šída in Hadinec & Lustyk 2008) make further spread of the species likely.

*Rhodanthe manglesii*. Reported as escaped from cultivation in Chudenice, distr. Klatovy, western Bohemia (Dostál et al. 1948–1950, Štech in Slavík & Štěpánková 2004).

*Rhodotypos scandens*. A locally naturalized population has been observed since the early 1990s in the Boří les forest between Valtice and Břeclav, southern Moravia, where the species has spread and formed a vital population. The species was introduced to cultivation in the region probably in the 1920s, when former pastures south of the Prostřední rybník fishpond were afforested mainly with introduced species (J. Uher, pers. comm.). This is the first case when the species became locally established in Europe; so far it is only reported as casual from Belgium and Hungary (DAISIE 2009), as well as from Vienna in Austria (Fischer 2008).

*Ribes sanguineum*. Several tens of flowering shrubs were found along a tourist path in a spruce and larch plantation close to a chalet settlement near Dolany, distr. Olomouc, central Moravia. As the species increasingly appears on sale in garden centres, its spread by birds is likely. Plants growing in the locality probably belong to some of the numerous garden cultivars (Hadinec & Prach in Hadinec & Lustyk 2008).

*Rodgersia podophylla* survives as cultivation relic in parks for many decades, e.g. in Průhonice or Vrchotovy Janovice. Seeds do not germinate and plants spread only vegetatively (Sekerka 2009).

*Rosa multiflora* is reported as escaping from windbreaks in southern Moravia (Tichá 2004). Shrubs most likely established from seed were repeatedly observed at urban sites in Prague (J. Sádlo, pers. obs. 2009 and 2012).

*Rudbeckia fulgida* is a garden ornamental once documented as temporarily escaped from cultivation on a ruderal site at the Pustý rybník fishpond near Blatná, southern Bohemia (Deyl & Skočdoplová-Deylová 1989).

*Rumex patientia* × *R. tianschanicus* is a hybrid originated in cultivation in the Ukraine and planted as a biofuel crop in the Czech Republic since the 2000s, usually referred to as *Rumex* ‘Uteuša’. Probably the first record outside cultivation was a single sterile plant at the western shore of the Rozkoš water reservoir, eastern Bohemia, in 2005, ca 3 km from the nearest planting plot (F. Krahulec). Since then it has been repeatedly reported as escaping from cultivation in other places elsewhere.

*Rumex longifolius* subsp. *sourekii*. Pyšek et al. (2002) listed only the species *R. longifolius* without indication of subspecies. Now both subspecies occurring in the country (subsp. *longifolius* and subsp. *sourekii*) are included.



This subspecies occurs in disturbed habitats at higher altitudes. In the 1990s it was locally common (Krkonoše Mts, Jizerské hory Mts) and spreading (K. Kubát in Hejný & Slavík 1990).

*Salix melanopsis* is locally naturalized at the Nové Mlýny water reservoirs, southern Moravia, where it was planted to prevent bank erosion in 1984–1992. It spreads by vigorous root suckers, but rooting of branches dispersed by water was also observed. The species was recorded on 10 out of 16 islands investigated and on the upper dam of the middle reservoir of Nové Mlýny. Plants cultivated in the Czech Republic are a single clone (Úradníček 2004).

*Salix cordata*. Originally reported as a find of a rooted branch at the Rovenský rybník fishpond under the name *Salix* ‘Americana’ (Krahulec 1975). A clone of this species (det. J. Koblížek) persists at one site in Česká Skalice, eastern Bohemia, since the 1960s, most probably as a cultivation relict; the population is maintained by rooting.

*Santolina chamaecyparissus* is occasionally planted in gardens and reported to escape rarely and temporarily, e.g. near Ledč nad Sázavou, eastern Bohemia (Bělohávková in Slavík & Štěpánková 2004).

*Sarracenia purpurea*. About 10 plants were recorded at the Řásník fishpond near Křižánky in the Žďárské vrchy Mts, eastern Bohemia, in 2011, having survived winter from the previous year. The plants were assumed to have been deliberately planted in the wild and since the locality is in a protected area, nature conservation authorities planned their eradication when the species was found. As the information appeared on the internet (<http://www.novinky.cz/domaci/229243-na-vysocine-se-objevila-americka-masozrava-rostlina.html>), the identification based on a photograph was possible. The species was also observed to survive winter and produce seedlings in a peaty site in a private garden in Liberec (L. Sekerka, pers. comm.). In the Borkovická blata peatbog near Soběslav, southern Bohemia, a single plant was planted in the wild, survived winter for several years and produced numerous seedlings before it was eradicated (M. Štech, pers. comm.).

*Sasa palmata* ‘Nebulosa’. Two dense stands, the larger one of about 150 m<sup>2</sup>, were found in Praha-Podhoří (50°07'25.1"N, 14°24'06.4"E) in 2012, probably resulting from former cultivation and subsequent vigorous clonal spread (J. Sádlo).

*Scilla forbesii*. The species is often planted and known to escape from cultivation in some botanical gardens and parks, first reported in the Podzámecká zahrada garden in Kroměříž in 1934 (H. Zavřel, BRNM, PR). Two confirmed records in the wild come from the surroundings of Prague, near Lhota in 1998 and in the Milíčovský les wood in 2000. It is likely that several herbarium specimens from the second half of the 20th century, determination of which was not possible due to collections late in the season, also relate to the species (Trávníček 2010, Trávníček in Štěpánková 2010).

*Scilla sardensis* is occasionally planted and recorded as escaped in two localities. A population of ca 100 plants was first observed in the castle park in Otín, western Bohemia, in 1965; by 2004 it has increased to 500–600 plants spontaneously occurring in the park (Král et al. 2004a). It was reportedly planted in the wild in the Průhonice Park near Prague (Blažek 1972), and recorded spontaneously growing in several other localities such as Luděrov, central Moravia, and the university botanical garden in Olomouc (Trávníček 2010, Trávníček in Štěpánková 2010).

*Senecio xhelwingii*. A hybrid between the neophyte *S. vernalis* and the archaeophyte *S. vulgaris* is rarely found in populations of parental species (Grulich in Slavík & Štěpánková 2004).

*Scolymus maculatus*. Collected in 1969 at a rubbish tip in the former loam pit (“Kohnova cihelna”) below Červený kopec hill in Brno, southern Moravia (F. Grill, BRNU, det. J. Danihelka). It was erroneously determined as *Carthamus lanatus* and published under this name by Grill (1979).

*Sorbus austriaca* was formerly considered native but the plants actually represent another species. A taxonomic revision revealed that *S. austriaca*, with the native distribution range from the Pyrenees to the Alps, has been planted in the Czech Republic since at least 1966 as a garden ornamental and alley tree, and rarely escapes from cultivation. So far it has been documented from two localities in central Bohemia: Průhonice and Benešov. A population of tens of young individuals up to 2–3 m tall was found growing along a tourist path in a woodland on Žďár hill near Rokycany, western Bohemia, in 1999 (Lepší et al. 2011).

*Sorbus latifolia* is occasionally planted in the Czech Republic and rarely escapes from cultivation (Lepší et al. 2011).

*Spiraea japonica*. Ongoing regeneration from seed is observed in the Průhonice Park near Prague where the species forms small stands (J. Burda, pers. comm.). Several occurrences outside cultivation were also reported in the floristic literature from the 1990s (Křivánek 2008).

*Stachys setifera*. A single clone with three flowering ramets was found on a sand heap in Brno-Stránice, southern Moravia, in 2007, and disappeared by the next year. The plant probably belonged to the subsp. *iranica*. It is unlikely that the species was planted nearby as it is not used as a garden ornamental or medicinal plant in the Czech Republic (Řehořek et al. in Hadinec & Lustyk 2009).

*Symphytotrichum laeve* × *S. lanceolatum* is a stabilized hybrid similar to taxa known from the native range in North America. Plants were so far only collected in Moravia: around Brno, Vyškov, Frýdek, and in the Moravian karst (Kovanda & Kubát in Slavík & Štěpánková 2004).

*Tagetes tenuifolia* is reported as not known to escape from cultivation in the Flora of the Czech Republic (Bělohávková in Slavík & Štěpánková 2004), however, it was recorded in Nová Ves u Bakova in 2009 (J. Sádlo).

*Thuja occidentalis*. Young trees were recorded in Praha-Satalice, planted trees also occasionally regenerate on cemeteries and in villages (2012 J. Sádlo). It was also observed to regenerate, mostly from seed, near planted individuals in the Průhonice Park near Prague (J. Burda, pers. comm.).

*Trachyspermum ammi* was recently reported as a new alien species for the Czech Republic based on a herbarium specimen collected in Ústí nad Labem-Svádov on a sandy bank of the Labe river in 1903, and recently identified by M. Marek. The species probably originated in cultivation (Hadinec & Lustyk 2012).

*Trifolium alpinum* and *T. badium*. The species were most likely deliberately introduced to the Rýchory Range, Krkonoše Mts, at the turn of the 19th century (Štursa et al. 2009). *Trifolium alpinum* was collected once in 1919 (Kubát in Slavík 1995), *T. badium* repeatedly during the first half of the 20th century mostly around Rýchorská studánka spring, where it still survived at the end of the 2000s (F. Krahulec). The hypothesis of a deliberate introduction into the wild is supported by these species being not reported by the 19th century botanists working in the area (A. F. Pax, R. Traxler).

*Trifolium vesiculosum* was collected in 1989 in a field near Troubsko, distr. Brno, where it was previously planted as a genetic resource for fodder production (R. Řepka, BRNU), and escaped in Louky, distr. Zlín, northern Moravia, in 2009 (Řehořek in Hadinec & Lustyk 2012).

*Typha laxmannii*. Although previously considered native and even red-listed (Procházka 2001), the species is a naturalized neophyte first recorded in 1968 near Kroměříž (H. Zavřel, OLM). In 2010, there were about ten localities reported in the literature, and in recent years the species tends to spread at waterholes at reclaimed coal mining heaps, in sand pits and similar habitats. The spread is supported by frequent planting in garden ponds (Kubát in Hadinec & Lustyk 2012).

*Vaccinium corymbosum*. Hundreds of plants originated from seed were recorded in a peaty forest in the Borkovická blata peat bog near Mažice, southern Bohemia, in an abandoned planting site (2011 J. Sádlo).

*Viburnum rhytidophyllum*. Several young shrubs were found growing in a hedgerow in Brno-Řečkovice in 2011, resulting from natural regeneration of two large shrubs grown nearby (J. Danihelka), and in an abandoned garden in Průhonice (J. Sádlo).

*Viola septemloba*. An abundant self-sustaining population of the species was found at the Central Cemetery in Brno-Bohunice, in the part with soldiers' graves from the 1920s. It was first collected by K. Sutorý (BRNM) in 2003. This author suggests that since the species is not known as planted in Europe, it might have been introduced by legionnaires returning from Russia via North America to the former Czechoslovakia after WWI (Sutorý in Hadinec & Lustyk 2008).

*Xanthium orientale*. A North American species naturalized in southern Europe but only occasionally introduced to more northerly parts of the continent. In the Czech Republic it was collected only once at a ruderal site in Brno-Královo Pole in 1965 (F. Grill, BRNU; Havlíček in Slavík & Štěpánková 2004).

*Xanthium ×kostalii*. A rare hybrid between the neophyte *X. albinum* and the archaeophyte *X. strumarium*, collected only from the surroundings of Děčín (1854 Malinský, PRC), northern Bohemia, and repeatedly from Kralupy nad Vltavou (1896, 1897, PRC), central Bohemia (Havlíček in Slavík & Štěpánková 2004). Recently, it was collected in the surroundings of Znojmo (R. Němec, MZ, rev. J. Danihelka).

*Xerochrysum bracteatum*. Flora of the Czech Republic stated that the species may very rarely escape from gardens where it is occasionally planted, but the authors were not aware of any report (Štech in Slavík & Štěpánková 2004). However, there is a report on its escape at a rubbish tip in Přímělkov near Jihlava, western Moravia, where the species was observed in 1991–1992 and 1994–1995 (Růžička & Zlámálík 1997).

## Changes of immigration status

### *Residence time: neophytes reclassified as archaeophytes*

Most changes to the residence time status are based on the sources that the authors of the original catalogue were not aware of, or that appeared since the publication of the original catalogue (Pyšek et al. 2002). This concerns namely extensive archaeobotanical research focusing on thorough analysis of archaeological sites in several parts of the Czech Republic, carried out by V. Čulíková (Most, Prague, Česká Lípa, Libice nad Cidlinou, Čáslav, Opava; summarized in Čulíková 1986, 1994, and reported in numerous papers referred to below) and E. Opravil (e.g. Opravil 1980, 1986, 1993, 1994). This research provided evidence of the medieval presence of a number of

taxa previously considered as neophytes at the territory of the Czech Republic: these taxa need to be reclassified as archaeophytes.

*Allium cepa* was part of medieval diet and is sporadically documented by archaeobotanical finds so far. A find from 1438 at Kozí Hrádek (distr. Tábor) is documented, and sporadic onion seed from the High Medieval come from Opava and Jihlava (Čulíková 2000; see also Čížek 1994).

*Anthriscus cerefolium* var. *cerefolium* was cultivated as a vegetable since the Medieval (Slavík in Slavík 1997a) at it was escaping in the past (Koutecký in Hadinec et al. 2004).

*Arrhenatherum elatius* was already reclassified as an archaeophyte due to the lack of clear evidence for its introduction only in the Modern Period (Chytrý et al. 2005, Sádlo et al. 2007). This reclassification is supported by archaeobotanical evidence from the work of Čulíková (1999) who found five caryopses in Libice nad Cidlinou in the material from the mid 10th century. Other archaeobotanical finds of *A. elatius* come from the 16th century (Čulíková 1995b, 2002). Recently Poschlod et al. (2009) argued that the neophyte status is more appropriate for *A. elatius* var. *elatius* because the medieval archaeobotanical records refer to *A. elatius* var. *bulbosum*, native to southern and southwestern part of Central Europe (Conert 1998: 231–232). There are a few records of the latter from the Czech Republic (Dostál 1989: 1381). However, as M. Dvořáková (in Štěpánková in prep.), who treated the species for the Flora of the Czech Republic, could not find any herbarium specimens of var. *bulbosum* collected in the country, we include *A. elatius* only at the species level and consider it as an archaeophyte. The issue, however, requires further study.

*Atriplex hortensis* was used as a vegetable and medicinal plant in the Medieval, and its achenes were found from archaeobotanical sites in the town of Most, northern Bohemia, dated to the 13th and 14th centuries (Čulíková 1981, 1995b).

*Camelina microcarpa* was repeatedly documented by archaeobotanical studies to be regularly present at several archaeological sites (Prague, Most, Libice nad Cidlinou, Opava) since the 10th century (Čulíková 1998a, b, 1999, 2001a, b, 2002, 2005, 2006, 2009, 2010).

*Camelina sativa*. There are rare archaeobotanical finds of the seed of this species in medieval diet. Čulíková (2000) points out that while they do not provide unequivocal proof of its cultivation, the species is considered a traditional oil plant (Čulíková 2000).

*Chenopodium foliosum* was recorded in a fill of a waste pit from the 14th century in Most, northern Bohemia (Čulíková 1981).

*Citrullus lanatus*. Three localities (in Prague and Opava) are reported in the CZAD (Archaeological Institute ASCR 2011).

*Coriandrum sativum* is an ancient spice that was spreading with Roman colonization. On the Czech territory it has been documented since the 13th century (Čulíková 2000; see also Čížek 1994). It was recorded in several parts the country, i.e. Prague, Most, Česká Lípa and Opava (Čulíková 1981, 1987, 1995b, 1997a, 2002, 2009, 2011a).

*Cucumis melo* was reported to occur in sporadic finds from Bohemia and Moravia dating back to the late Middle Ages (Čulíková 2000).

*Cucumis sativus*. The earliest record of this species comes from the 9th–10th century Prague (Čulíková 2001a); it was further documented in a number of archaeobotanical studies in northern Bohemia and Prague (Čulíková 1981, 1995b, 1997a, 2000, 2001a, 2002, 2005, 2010).

*Daucus carota* subsp. *sativus*. Historical evidence suggests that it has been planted in Central Europe since the High Medieval; the region of carrot planting in Europe extended during that period from the southwest to the north and east, with reports from neighbouring Poland in the 14th century (Stolarczyk & Janick 2011).

*Dipsacus sativus* is reported from the Medieval (Oprávil 2000). It is also recorded from that period in Germany (Knörzer 1984) and Great Britain (Ryder 1994).

*Elsholtzia ciliata* was recorded in a fill of a waste pit from the 14th century in Most, northern Bohemia (Čulíková 1981, 1995b).

*Galega officinalis*. Pollen of this species was recorded in an archeobotanical profile from Libice nad Cidlinou, central Bohemia, from the Early medieval (R. Kozáková, unpublished).

*Fagopyrum esculentum* was first documented from the turn of the 9th century in Prague (Čulíková 1998a, 2000) as well as from several later medieval sites (Čulíková 1987, 1995b, 2002).

*Ficus carica*. Its fruits are considered to be imported already in the Medieval, although it may have been occasionally cultivated in warmer regions of the country (Čulíková 2000; see also Čížek 1994). The oldest documented record comes from Prague already from the 9th century (Čulíková 1998b, 2001a). Achenes were usually found in abundance at each locality subject to archaeobotanical research (Čulíková 2000) throughout the Medieval (Čulíková 1981, 1987, 1995b, 1997a, b, 1998a, b, 2001a, 2002, 2003, 2005, 2009, 2010).

*Glaucium flavum* was recorded, as a seed, in samples from Prague dated to the 9th–10th centuries (Čulíková 2001a).

*Iris ×germanica* and *Iris ×sambucina*. Planted in central Europe since the Medieval (Jäger et al. 2008).

*Lathyrus sativus*. Palaeobotanical evidence suggests that the species was planted in the Bronze Age, recorded from Dobšice, southwestern Moravia (Kočár & Dreslerová 2010).

*Lens culinaris* was recorded from the medieval period in the Prague Castle (Čulíková 2001b). Two seeds were also recorded in a 13th century sample from a well in the Prague Castle. Although the species has been planted in the region since prehistoric times it is rarely recorded in medieval archaeobotanical samples (Čulíková 2012).

*Levisticum officinale* was present in several archaeobotanical samples from Most and Prague from 13th–15th centuries (Čulíková 1981, 1987, 1995b, 2002). It is supposed that it has been more widespread in the Medieval than indicated by the frequency of its finds (Čulíková 2000).

*Myrrhis odorata* was present in the Medieval from Prague (Opravil 1986) and was well known from Central Europe in that period (Harvey 1984).

*Prunus cerasifera* was reported by Čulíková (1995b) from Most, which is not unambiguous evidence as the dating of this site extends until the 16th century, but there are several records from the High Medieval in the CZAD (Archaeological Institute ASCR 2011).

*Rapistrum rugosum*. The species was recorded from the medieval period at Mikulčice, southern Moravia (P. Kočár, pers. comm.). There are two subspecies distinguished in the Czech Republic, subsp. *rugosum* and subsp. *orientale*, both up to now considered as neophytes first recorded in the Czech Republic in 1850 and 1940, respectively (Smejkal in Hejný & Slavík 1992). As they cannot be separated based on archaeobotanical evidence, we use this find as the reason for classifying subsp. *rugosum* as an archaeophyte.

*Salvia officinalis* was recorded in a fill of a waste pit from the 13th–14th centuries in Most, northern Bohemia (Čulíková 1981, 1995b; see also Čížek 1994).

*Satureja hortensis* was recently confirmed with certainty from a 13th century sample in Čáslav (Čulíková 2011b). Until now it was missing from the largest medieval sampling site in Most (Čulíková 1994) and previous records did not allow unambiguous identification, with the exception of a fill of a waste pit in Opava from the 15th century (Čulíková 2011a) and records from the early post-medieval period (Čulíková 2007, 2008).

*Silene dichotoma* was reported from medieval archaeobotanical samples in Uherský Brod (Opravil 1993).

*Silybum marianum* was used as a medicinal plant in the High Medieval (CZAD, Archaeological Institute ASCR 2011).

*Sorbus domestica*. Recorded from the Medieval repeatedly by Opravil (1994) and in the CZAD (Archaeological Institute ASCR 2011).

*Vicia ervilia*. Paleobotanical evidence suggests that the species was planted in the region in the Iron Age (Opravil 2000).

Another valuable source proved to be the summary of medieval sources on the use of medicinal plants in Bohemia (Čížek 1994). This author extracted information from the writings of Křišťan z Prachatic (Cristannus de Prachaticz, probably 1366–1431), a dean of the faculty of medicine and rector of Charles University in Prague, who wrote his works at the beginning of the 15th century, and they are probably the first scientific popularization in Czech. His Medicinal books and herbal, together with other then sources analysed by Čížek (1994), became, after careful interpretation of the original plant names, a basis for reclassifying the following species from neophytes to archaeophytes: *Allium fistulosum*, *A. porrum*, *Angelica archangelica* subsp. *archangelica*, *Borago officinalis* (see also Jankovská 2011, who gives archaeobotanical evidence from Prague and Opava in the High Medieval), *Cnicus benedictus*, *Glycyrrhiza glabra*, *Hyssopus officinalis*, *Lactuca sativa*, *Lavandula angustifolia*, *Majorana hortensis*, *Ocimum basilicum*, *Paeonia officinalis*, *Pimpinella anisum*, *Ruta graveolens* and *Vicia faba*.

#### *Archaeophytes reclassified as neophytes*

*Lathyrus aphaca* is considered alien without residence time specified in the national literature (Chrtková et al. 1977, Bělohávková & Chrtková in Slavík 1995), and was classified as an archaeophyte in Pyšek et al. (2002). However, its status is reassessed here because the species is absent from old floras. Its earliest record for the country, based on a find in the vicinity of Uherské Hradiště, was published in 1856 (Sapetza 1856) and remained neglected, for instance, by Oborný (1886). The species only started to be occasionally recorded at the beginning of the 20th century (Chrtková et al. 1977).

*Fumaria parviflora* was reclassified based on reinterpretation of the account in the Flora of the Czech Republic (Smejkal in Hejný & Slavík 1988) and classification for Germany (Jäger 2011).

**Species included in 2002 version and omitted from here**

Seventy-five taxa listed in the previous version of the catalogue (Pyšek et al. 2002) were removed. They can be divided into several groups:

(i) **Reclassified as native** (41). For several taxa more or less convincing arguments were given recently suggesting their native status: *Agropyron pectinatum* (Řepka & Chytrý in Hadinec et al. 2003), *Crocus heuffelianus* (Chrtek in Štěpánková 2010), *Epilobium dodonaei* (Kaplan in Hadinec & Lustyk 2007), *Senecio rupestris* (Lustyk & Šída in Hadinec & Lustyk 2008), *Teucrium scorodonia* (Hadinec in Hadinec & Lustyk 2012) and *Viola tricolor* subsp. *curtisii* (V. Grulich, pers. comm.). This concerns mostly rare species occurring in a single or a few localities; the status of these species in the literature has been long debated without clear evidence in one direction or another. Following a conservative approach, we classify these species as native. Such a conservative approach also resulted in removing from the list some species originally classified as archaeophytes (Pyšek et al. 2002) yet without sufficient support for the hypothesis of their alien origin; they are thus considered native here: *Aethusa cynapium*, *Androsace maxima*, *Arctium minus* and its hybrid, *A. xmaassii*, *Arnoseris minima*, *Carduus crispus* (including its hybrids *C. xstangii* and *C. xsepincola*), *Cerintho minor*, *Chenopodium ficifolium*, *C. glaucum*, *C. opulifolium*, *C. polyspermum*, *Cirsium vulgare* (including its hybrids *C. xhipontinum*, *C. xgerhardtii*, *C. xsabaudum* and *C. xsubspinuligerum*), *Crepis biennis*, *Echium vulgare*, *Galeopsis ladanum*, *Medicago lupulina*, *Mentha arvensis* (including its hybrids *M. xdalmatica* and *M. xverticillata*; see also Štěpánek 1998a, b), *Pastinaca sativa* subsp. *sativa*, *Plantago major* subsp. *major* (including its hybrids *P. xmixta* and *P. xmoravica*), *Polygonum aviculare*, *Sagina apetala* subsp. *apetala*, *S. apetala* subsp. *erecta*, *Scleranthus annuus* and *Vicia hirsuta*.

In the case of *Brachypodium rupestre*, a possibility of its native status was discussed recently (Dančák & Hadinec in Hadinec & Lustyk 2011), but we consider it as a neophyte. This species has been reported as occurring in the territory of the current Czech Republic since the mid 19th century (Opiz 1852) albeit without unambiguous herbarium evidence; recently it has been discovered in several localities in eastern Moravia and near Veltěže in Louny district, northern Bohemia (Dančák & Hadinec in Hadinec & Lustyk 2011), and near Bělá pod Bezdězem in northern Bohemia (50°30'11.6"N, 14°46'6.2"E) where a clone covering ca 100 m<sup>2</sup> was found in a dry grassland with prevailing *Bromus erectus* (2009 J. Sádlo). Although it occurs together with several native species of putative relict status, the species is known to spread along roads in Germany (Hemm et al. 2007).

In the same vein, *Artemisia alba* was first recorded in 1965 in one locality in the České středohoří hills, northern Bohemia, as a clone growing on an area of approximately 7 m<sup>2</sup>. The locality was destroyed in 1977 but the species was found again in 2004 close to the original site, probably as a remnant of the original population (Hadinec & Lustyk 2012). Although its native status is considered unlikely in the flora of the Czech Republic (Grulich in Slavík & Štěpánková 2004) and the species was listed as alien in Pyšek et al. (2002), the recent treatment suggests that its alien status be reconsidered (Hadinec & Lustyk 2012). We do not follow this opinion as the species is absent from historical floristic literature from this botanically very intensively studied area, and its native distribution is in southern Europe with the northernmost occurrences in Hungary, 400 km from the site in the Czech Republic (Grulich in Slavík & Štěpánková 2004).

(ii) **Not escaping from cultivation** (9). Several taxa are not planted in the Czech Republic, or if they are, there is so far no evidence for them escaping from cultivation: *Amelanchier ovalis* (only rarely planted and not escaping; Lepší & Lepší 2008), *Avena nuda* (probably never cultivated, reports on its occurrence are confusing and relate to *Avena sativa* Chinensis Group; J. Zázvorka in Štěpánková in prep.), *Campanula speciosa* (previous reports on escapes assigned to this species, native to the Pyrenees, most likely refer to *C. glomerata*), *Catananche caerulea* (listed previously based on a note about escape from cultivation in Dostál 1989 but herbarium evidence is lacking; Skalická in Slavík & Štěpánková 2004), *Cerastium biebersteinii* (this species, endemic to the Crimea, is most likely not planted in the Czech Republic, being confused with *C. tomentosum*), *Cichorium intybus* subsp. *foliosum*, *Grindelia squarrosa*, *Ellisia nyctelea* and *Teucrium marum* (no reliable records of escape from cultivation exist).

(iii) **Taxonomically not justified taxa** (10). This concerns some subspecies recognition of which is not justified based on the material from the Czech Republic; they are now included within the species level: *Arrhenatherum elatius* subsp. *bulbosum*, *Bromus hordeaceus* subsp. *pseudothomii* (included in *B. hordeaceus* subsp. *hordeaceus*; plants roughly corresponding to this taxon cannot be separated from other morphotypes of this highly variable species) and *B. secalinus* subsp. *decipiens* (included in *B. commutatus*). Further, this category includes some taxa with doubtful taxonomic status: *Chenopodium integrifolium* (included in *Dysphania*

ambrosioides), *Hesperis matronalis* subsp. *oblongipetala* (included in *H. matronalis* subsp. *matronalis*), *Lathyrus articulatus* (included in *L. clymenum*), *Urtica dodartii* (included in *U. pilulifera*), *Vicia cordata* (included in *V. sativa*). Also excluded are some formerly listed hybrids: *Spergula arvensis* subsp. *arvensis* × *S. arvensis* subsp. *sativa*, and *Cannabis xintersia* (a hybrid between two varieties, not distinguished in the current list).

(iv) **Doubtful records** (16). This category includes taxa that were recently suggested to have never occurred in the country, mistaken with other species, or bearing names that are difficult to interpret.

*Aster parviflorus* (syn. *Symphotrichum parviflorum*). Reportedly an almost sterile taxon that originated in Europe but its possible occurrence and distribution in the Czech Republic is unclear (Kovanda & Kubát in Slavík & Štěpánková 2004).

*Bromus inermis* × *B. pumpellianus*. The reexamination of plants growing at the locality reported in Krahulec & Jiříšně (1997) suggests that they fall within the range of individual variability of the native species *B. inermis* (B. Trávníček, pers. comm). Still, the issue may require further study.

*Bromus riparius*. A doubtful record without any details (Kubát et al. 2002) and unclear source.

*Bromus grossus*, recorded as *B. secalinus* subsp. *multiflorus* in Pyšek et al. (2002), is a weed of spelt wheat (*Triticum aestivum* Spelta Group) fields. It appears that this species was never documented from the Czech Republic as no specimens was found in Czech herbaria (J. Danihelka & J. Chrtek, unpubl.); the name was misapplied to plants of *B. secalinus* with spikelets consisting of many florets (see Dostál 1989).

*Centaurea nigra* × *C. phrygia* was listed based on the determination by the collector (V. Jehlík, PRA) but this hybrid combination has not been reported elsewhere and its occurrence is unlikely (P. Koutecký, pers. comm.).

*Cirsium xpreiseri*. Listed in previous version of this catalogue based on Dostál (1989) but not documented from the Czech Republic (Bureš in Slavík & Štěpánková 2004).

× *Conygeron huelsenii*. This hybrid is reported in the literature since the 19th century (Čelakovský 1888b) but the herbarium specimens either represent different taxa, or are not available for some records. Although it is documented from neighbouring countries and its occurrence in the Czech Republic is possible, we omit it from the list due to the lack of evidence.

*Filago gallica*. Reported in Kubát et al. (2002) but the more recent treatment concluded that the occurrence of the species in the Czech Republic is doubtful and never reliably documented. One herbarium specimen available refers to *F. minima* (Štech in Slavík & Štěpánková 2004).

*Filipendula rubra*. Reports on the occurrence of this species refer to *F. kamtschatica* (Slavík 2002).

*Hyacinthella rumelica* was reported by Šuk (2001) but not included in the recent treatment in the Flora of the Czech Republic, where Velká hora hill near Karlštejn, central Bohemia, is mentioned as locality of *H. cf. leucophaea* (Bělohávková in Štěpánková 2010). In fact, recent sources (Tutin et al. 1980, Delipavlov et al. 2003) recognize only *H. leucophaea*, even without mentioning *H. rumelica* in its synonymy. In our treatment, the plants reported by Šuk (2001) as *H. rumelica* are therefore included within *H. leucophaea*.

*Kickxia elatine* subsp. *crinita*. Chrtek (1984), analysing the variation of the populations of *K. elatine* subsp. *elatine* in southern Moravia, considered some of the morphotypes transitory towards this Mediterranean subspecies. He even identified one specimen as *K. elatine* subsp. *crinita* (see also Slavík in Slavík 2000). However, based on phytogeographic information, we consider its occurrence in the Czech Republic quite unlikely and include all records of *K. elatine* in the type subspecies.

*Lithospermum arvense* subsp. *caerulescens* is reported to have occurred near Všetaty, central Bohemia (Slavík in Slavík 2000). Given that both *Buglossoides arvensis* and *B. incrassata* have blue-flowered forms, it is impossible to interpret the above report with certainty.

*Mantisalca salmantica*. Rather vague literature reports about occasional occurrence of this species in the Czech Republic (Dostál 1989, Kubát et al. 2002) lack details and are not supported by herbarium specimens (Štěpánek in Slavík & Štěpánková 2004).

*Parapholis strigosa*. The species was reported by Dostál (1989: 1357) as “once introduced to Brno with cotton”. We believe that this is a misinterpretation based on the record of *Pholiurus incurvus* (= *Parapholis incurva*), introduced to Brno with wool and reported earlier by Dvořák & Kühn (1966). No specimens documenting the occurrence of *P. strigosa* in the Czech Republic were found in herbaria.

*Veronica acinifolia*. The only herbarium specimen from the Czech Republic, on which the reported occurrence is based (Smejkal 1970, Hroudá in Slavík 2000), belongs to *V. triphyllus* (Danihelka 2011).

*Vicia xpoehhackeri*. Omitted due to the lack of evidence.

**Pending issues: species with uncertain status, doubtful records and taxa requiring further study or monitoring**

In the Průhonice Park near Prague there is a good long-term record of regeneration of planted woody taxa. The following were observed to regenerate, mostly from seed, in the vicinity of planted individuals: *Acer saccharum*, *Carya ovata*, *C. tomentosa*, *Crataegus intricata*, *Fraxinus rhynchophylla*, *Chamaecyparis nootkatensis*, *C. pisifera*, *Juglans ailanthifolia*, *Liriodendron tulipifera*, *Malosorbus florentina*, *Mahonia repens*, *Padus maackii*, *Picea sitchensis*, *Pterocarya stenoptera*, *Quercus palustris*, *Rhododendron luteum*, *Symplocos paniculata*, *Taxus baccata*  $\times$  *T. cuspidata*, *T. cuspidata*, *Thuja plicata*, *Torreya nucifera* and *Tsuga canadensis* (J. Burda, pers. comm.). These taxa are not included in the list but a note is given here for comparison with other regions of the world where they may appear as aliens.

Some species are not included in the list even though they are reported in national sources such as floras and field guides. This concerns, for example, several taxa of the genus *Symphytichum* (*Aster* s. l.), possible occurrence and distribution of which in the Czech Republic is unclear and requires further study. These species are either reported as being confused with other species in older sources (*S. tradescantii*), or are reported as (likely) to occur but not documented by any herbarium specimens (*S. praealtum*, *S. ericoides*). This is also the case of *Galatella sedifolia* subsp. *sedifolia* (syn. *Aster punctatus*). Two records exist from the Czech Republic, both assuming either accidental introduction or garden escape (Makowsky in Oborny 1885, see also Danihelka 2008, Dostál et al. 1948–1950) but no herbarium specimens were found.

The same conservative approach was adopted towards hybrids with alien species involved in taxonomically difficult genera that are reported from the Czech Republic but not confirmed with certainty, e.g. *Chenopodium album*  $\times$  *C. strictum*, *C.  $\times$ tridentium* (= *C. opulifolium*  $\times$  *C. strictum*), *C.  $\times$ variable* (= *C. album*  $\times$  *C. berlandieri* subsp. *zschackei*; Dostálek et al. in Hejný & Slavík 1990, Kubát et al. 2002), or *Atriplex hortensis*  $\times$  *A. sagittata* (Kubát et al. 2002).

We did not include species that are known to have been planted in the wild and survive as the originally planted individuals such as *Rhododendron hirsutum* and *R. ferrugineum* (Kubát et al. 2002). One shrub of the latter species was planted in the Králický Sněžník Mts and still survives since at least 1825 when it was first recorded (F. Krahulec, pers. obs.). Neither were included cases such as *Cyclamen coum*, of which one plant was found in the Radotínské údolí valley, Prague, where it was most likely deliberately planted and reported to survive since 2008 (Prančl in Hadinec & Lustyk 2012).

Appendix 2. – List of alien taxa of the Czech flora. Taxa are arranged alphabetically. **Family** codes (Fam) are formed by initial letters of the family name. The following information is given for each taxon, if available: **Life history** (LH): a – annual, b – biennial, pe – perennial, ss – semishrub, s – shrub, t – tree, f – fern, aq – aquatic, p – parasitic (life histories in which the taxon does not occur in the Czech Republic are given in parentheses). **Residence time status** (Res): ar = archaeophyte, neo = neophyte. **Invasion status** (Inv): cas = casual, nat = naturalized, inv = invasive. **Population group** (PG): 1–18, reflecting the dynamics of populations of the species in the region, with link to cultivation (see text for details). **First record** (1st): date of the first reported occurrence in the wild in the Czech Republic; in some cases approximate date (century or decade) is given inferred from the sources (e.g. 17th, 1990s). **Abundance type** (Abund) in the wild in the country: s – single locality, r – rare, sc – scattered, la – locally abundant, c – common, v – vanished (if no records have been known for a long period), s+ev – single locality, now vanished. **Pathway of introduction** (Path) of the species into the country: d – deliberate planting involved; a – accidental (unintentional) pathway only. **Region of origin**: M – Mediterranean region, E – Europe, As – Asia, Af – Africa, AmN – North America, AmC – Central America, AmS – South America, Au – Australia, hybrid – hybrid origin, anec – anecophyte (see text for details). Hybrid formulas for hybrids (nothospecies) and most anecophytes of hybrid origin listed here under their binomials are given in Electronic Appendix 2. **Cover** refers to average % cover in plant communities in the Czech Republic; upper index refers to the number of vegetation plots from which the value was calculated (note that the same values are given for *Chenopodium strictiforme* and *C. strictum*, and *Prunus domestica* and *P. insititia*, respectively, as the vegetation plots with these species could not be distinguished with certainty, and were merged). **Number of habitats** (Hab), classified according to Šádlo et al. (2007), in which the species grows (n = 88). **Impact** (IEc – **ecological**, IEn – **economic**): yes indicates that the species is reported to exert an impact in Europe; yes+, documented from the Czech Republic. **Source**: It primarily refers to the treatment in the Flora of the Czech Republic if the species is reported there as an alien; otherwise the sources refer to papers first reporting the species, or explicitly dealing with the given taxon. Also included are selected comprehensive accounts and specialized case studies, or updates of recent situation. Detailed information on taxa that represent additions to the Czech flora is given in Appendix 1. References to the eight volumes of the Flora of the Czech Republic (F1 – Hejny & Slavík 1988, F2 – Hejny & Slavík 1990, F3 – Hejny & Slavík 1992, F4 – Slavík 1995, F5 – Slavík 1997a, F6 – Slavík 2000, F7 – Slavík & Štěpánková 2004, F8 – Štěpánková 2010) and to the Additamenta ad floram Reipublicae Bohemicae series (A1 – Hadinec et al. 2002, A2 – Hadinec et al. 2003, A3 – Hadinec et al. 2004, A4 – Hadinec et al. 2005, A5 – Hadinec & Lustyk 2006, A6 – Hadinec & Lustyk 2007, A7 – Hadinec & Lustyk 2008, A8 – Hadinec & Lustyk 2009, A9 – Hadinec & Lustyk 2011) are indicated using codes. Taxa reported for the first time here are designated as ‘this study’. See Appendix 1 for comments on newly added and/or taxonomically difficult taxa, and for changes in residence time status.

| Taxon   | Fam   | LH    | Res | Inv | PG | 1st  | Abund | Path | Origin | Cover             | Hab | IEc | IEn | Source  |
|---|-------|-------|-----|-----|----|------|-------|------|--------|-------------------|-----|-----|-----|---|
| <i>Abies concolor</i> (Gordon et Glend.) Hildebr.                   | Pina  | t     | neo | cas | 4  |      | r     | del  | AmN    |                   |     |     |     | this study  |
| <i>Abies grandis</i> (D. Don) Lindl.                                | Pina  | t     | neo | cas | 4  |      | r     | del  | AmN    |                   |     |     |     | this study  |
| <i>Abies nordmanniana</i> (Steven) Spach                            | Pina  | t     | neo | cas | 4  |      | r     | del  | E      |                   |     |     |     | this study  |
| <i>Abutilon theophrasti</i> Medik.                                  | Malv  | a     | neo | nat | 8  | 1894 | r     | acc  | M As   |                   | 3   | yes | yes | Hejny et al. 1973, Slavík in F3, Jehlík 1998a               |
| <i>Acanthus hungaricus</i> (Borbás) Baen.                           | Acan  | pe    | neo | cas | 4  | 1999 | s     | del  | E      |                   |     |     |     | Hadinec in A8   |
| <i>Acer gimnala</i> Maxim.  | Sapi  | s     | neo | cas | 4  | 2001 | r     | del  | As     |                   |     |     |     | Pyšek et al. 2002   |
| <i>Acer manspessulanum</i> L.                                       | Sapi  | t     | neo | cas | 4  | 2001 | r     | del  | M      |                   |     |     |     | Pyšek et al. 2002   |
| <i>Acer negundo</i> L.  | Sapi  | t     | neo | inv | 18 | 1875 | c     | del  | AmN    | 5 <sup>51</sup>   | 8   | yes | yes | Koblížek in F5  |
| <i>Acer saccharinum</i> L.  | Sapi  | t     | neo | cas | 4  |      | s     | del  | AmN    |                   |     |     |     | Koblížek in F5  |
| <i>Acer tataricum</i> L.  | Sapi  | s     | neo | cas | 4  |      | r     | del  | E      |                   |     |     |     | Koblížek in F5, Čáp & Koblížek in A4                        |
| <i>Achillea crithmifolia</i> Waldst. et Kit.                        | Aster | pe    | neo | cas | 1  | 1886 | r     | acc  | E M    |                   |     |     |     | Danihelka in F7   |
| <i>Achillea filipendulifolia</i> Lam.                               | Aster | pe    | neo | cas | 4  | 1945 | r     | del  | E M    |                   |     |     |     | Sutory 1993, Danihelka in F7                                |
| <i>Aconitum xcammarum</i> L.  | Ranu  | pe    | neo | nat | 9  | 1819 | sc    | del  | anec   |                   | 8   |     |     | Skalický in F1  |
| <i>Acorus calamus</i> L.  | Acor  | pe aq | neo | nat | 15 | 1679 | sc    | del  | As     | 39 <sup>203</sup> | 9   | yes | yes | Pyšek & Mandák 1998a, Hendrych 2003, Závěská Drábková in F8 |
| <i>Actinidia deliciosa</i> (A. Chev.) C. F. Liang et A. L. Ferguson | Acti  | s     | neo | cas | 4  | 2008 | s     | del  | As     |                   |     |     |     | Hadinec et al. in A7  |
| <i>Adonis aestivalis</i> L. subsp. <i>aestivalis</i>                | Ranu  | a     | ar  | nat | 6  |      | sc    | acc  | M      | 5 <sup>128</sup>  | 3   |     |     | Křísa in F1   |



| Taxon   | Fam   | LH     | Res | Inv | PG | Ist  | Abund | Path | Origin  | Cover            | Hab | IEc | IE n | Source   |
|---|-------|--------|-----|-----|----|------|-------|------|---------|------------------|-----|-----|------|--|
| <i>Adonis amurensis</i> L. subsp. <i>amurensis</i>              | Ranu  | a      | neo | cas | 4  | 1874 | r     | del  | M       |                  | 1   |     |      | Křisa in F1  |
| <i>Adonis flammea</i> Jacq.                                     | Ranu  | a      | ar  | cas | 2  |      | r     | acc  | M       |                  | 1   |     |      | Křisa in F1, Fajmon in A4, Štefánek in A4                                |
| <i>Aegilops cylindrica</i> Host                                 | Poac  | a      | neo | cas | 1  |      | r     | acc  | M       |                  |     |     |      | Kubát et al. 2002, Dostál 1989   |
| <i>Aegilops geniculata</i> Roth                                 | Poac  | a      | neo | cas | 1  |      | r     | acc  | M       |                  |     |     |      | Kubát et al. 2002, Dostál 1989   |
| <i>Aesculus xcarnea</i> Hayne                                   | Sapi  | t      | neo | cas | 4  | 1963 | r     | del  | anec    |                  |     |     |      | Pyšek et al. 2002  |
| <i>Aesculus hippocastanum</i> L.                                | Sapi  | t      | neo | nat | 12 |      | la    | del  | M       |                  | 6   |     |      | Skalická in F5   |
| <i>Ageratina altissima</i> (L.) R. M. King et H. Rob.           | Aster | pe     | neo | cas | 4  | 1979 | s     | del  | AmN     |                  |     |     |      | Slavík in F7   |
| <i>Ageratum houstanianum</i> Mill.                              | Aster | a (pe) | neo | cas | 4  |      | r     | del  | AmC AmS |                  |     |     |      | Bělohávková in F7  |
| <i>Agrostemma githago</i> L.                                    | Cary  | a      | ar  | cas | 2  |      | r     | acc  | anec    |                  | 2   |     |      | Šourková in F2, Olypková 2003  |
| <i>Agrostis gigantea</i> Roth                                   | Poac  | pe     | neo | nat | 13 |      | sc    | acc  | M       | 4 <sup>157</sup> | 21  |     |      | Kubát et al. 2002  |
| <i>Agrostis scabra</i> Willd.                                   | Poac  | pe     | neo | nat | 8  | 2001 | s     | acc  | AmN     |                  |     |     |      | Pyšek et al. 2002  |
| <i>Ailanthus altissima</i> (Mill.) Swingle                      | Sima  | t      | neo | inv | 16 | 1874 | sc    | del  | As      |                  | 10  | yes | yes+ | Kobližek in F5   |
| <i>Ajuga chamaepitys</i> (L.) Schreb. subsp. <i>chamaepitys</i> | Lami  | a b    | ar  | nat | 6  |      | r     | acc  | M       |                  | 5   |     |      | Slavíková in F6  |
| <i>Ajuga chamaepitys</i> subsp. <i>chia</i> (Schreb.) Arcang.   | Lami  | a b pe | ar  | cas | 2  |      | v     | acc  | E M     |                  |     |     |      | Slavíková in F6  |
| <i>Alcea rosea</i> L.   | Malv  | b pe   | neo | nat | 11 | 1880 | r     | del  | anec    |                  | 3   | yes |      | Slavík in F3   |
| <i>Alchemilla conjuncta</i> Bab.                                | Rosa  | ss     | neo | cas | 4  |      | s     | del  | E       |                  |     |     |      | Plocek in F4, Havlíček 1999  |
| <i>Alchemilla mollis</i> (Buser) Rothm.                         | Rosa  | pe     | neo | cas | 4  | 1985 | r     | del  | E M     |                  |     |     |      | Plocek in F4   |
| <i>Alchemilla sericata</i> Rchb.                                | Rosa  | ss     | neo | cas | 4  |      | s     | del  | E M     |                  |     |     |      | Plocek in F4   |
| <i>Alchemilla speciosa</i> Buser                                | Rosa  | pe     | neo | cas | 4  |      | s     | del  | E       |                  |     |     |      | Plocek in F4   |
| <i>Alchemilla thyliantha</i> Juz.                               | Rosa  | pe     | neo | cas | 4  |      | r     | del  | E       |                  |     |     |      | Plocek in F4   |
| <i>Alhagi maurorum</i> Medik.                                   | Faba  | pe     | neo | cas | 1  | 1963 | s+v   | acc  | E M As  |                  |     |     |      | Pyšek et al. 2002  |
| <i>Allium atropurpureum</i> Waldst. et Kit.                     | Amary | pe     | neo | cas | 4  | 1946 | s     | del  | E       |                  |     |     |      | Pyšek et al. 2002, Krahulec & Duchoslav in F8                            |
| <i>Allium atroviolaceum</i> Boiss.                              | Amary | pe     | neo | cas | 1  | 1922 | s+v   | acc  | E M     |                  |     |     |      | Pyšek et al. 2002, Krahulec & Duchoslav in F8                            |
| <i>Allium cepa</i> L.   | Amary | pe     | ar  | cas | 5  |      | sc    | del  | M       |                  |     |     |      | Krahulec & Duchoslav in F8   |
| <i>Allium cristophii</i> Trautv.                                | Amary | pe     | neo | cas | 4  | 1994 | s     | del  | M As    |                  |     |     |      | Krahulec in A8, Krahulec & Duchoslav in F8                               |
| <i>Allium fistulosum</i> L.                                     | Amary | pe     | ar  | cas | 4  |      | r     | del  | As      |                  |     | yes |      | Krahulec & Duchoslav in F8   |
| <i>Allium moly</i> L.   | Amary | pe     | neo | cas | 4  |      | r     | del  | M       |                  |     |     |      | Krahulec & Duchoslav in F8   |
| <i>Allium paradoxum</i> (M. Bieb.) G. Don                       | Amary | pe     | neo | nat | 12 | 1867 | r     | del  | E       |                  | 6   |     |      | Hejny 1971, Hejny et al. 1984, Hadinec in A2, Krahulec & Duchoslav in F8 |
| <i>Allium porrum</i> L.   | Amary | pe     | ar  | cas | 4  |      | r     | del  | anec    |                  |     |     |      | Krahulec & Duchoslav in F8   |
| <i>Allium roseum</i> L.   | Amary | pe     | neo | cas | 4  | 2005 | s     | del  | M       |                  |     |     |      | Krahulec & Lepší in A8, Krahulec & Duchoslav in F8                       |
| <i>Allium sativum</i> L.  | Amary | pe     | ar  | nat | 11 |      | sc    | del  | anec    |                  | 4   |     |      | Duchoslav in F8  |
| <i>Allium stipitatum</i> Regel                                  | Amary | pe     | neo | cas | 4  | 2008 | s     | del  | As      |                  |     |     |      | Krahulec in A8, Krahulec & Duchoslav in F8                               |
| <i>Allium tuberosum</i> Spreng.                                 | Amary | pe     | neo | cas | 4  | 1866 | s+v   | del  | M       |                  |     |     |      | Krahulec & Duchoslav in F8   |
| <i>Allium zebdanense</i> Boiss. et Noë                          | Amary | pe     | neo | cas | 4  | 2006 | r     | del  | M       |                  |     |     |      | Krahulec & Marek in A5, Krahulec & Duchoslav in F8                       |
| <i>Alnus rugosa</i> (Du Roi) Spreng.                            | Betu  | s t    | neo | cas | 4  | 1872 | r     | del  | AmN     |                  |     |     |      | Kovanda in F2  |
| <i>Alopecurus myosuroides</i> Huds.                             | Poac  | a      | ar  | nat | 8  |      | r     | acc  | M       |                  | 3   |     |      | Jehlik 1998a, Kubát et al. 2002  |
| <i>Aithya armeniacca</i> Ten.                                   | Malv  | pe     | neo | cas | 1  | 1966 | v     | acc  | M       |                  |     |     |      | Smejkal 1966, Slavík in F3   |
| <i>Aithya hirsuta</i> L.  | Malv  | a      | neo | cas | 1  | 1870 | v     | acc  | M       |                  |     |     |      | Slavík in F3   |
| <i>Alyssum murale</i> Waldst. et Kit.                           | Bras  | pe     | neo | nat | 11 |      | r     | del  | M       |                  |     |     |      | Smejkal in F3  |

| Taxon   | Fam   | LH  | Res | Inv | PG | 1st  | Abund | Path | Origin  | Cover            | Hab | IEc | IEs  | Source   |
|---|-------|-----|-----|-----|----|------|-------|------|---------|------------------|-----|-----|------|--|
| <i>Alyssum rostratum</i> Steven   | Bras  | a   | neo | cas | 1  | 1897 | v     | acc  | E       |                  |     |     |      | Smejkal in F3  |
| <i>Amaranthus acutilobus</i> Uline et W. L. Bray                        | Amara | a   | neo | cas | 4  | 1909 | v     | del  | AmN     |                  |     |     | yes  | Jehlik in F2   |
| <i>Amaranthus albus</i> L.  | Amara | a   | neo | cas | 8  | 1893 | sc    | acc  | AmN     |                  | 4   |     | yes  | Hejny et al. 1973, Jehlik in F2, Jehlik 1998a            |
| <i>Amaranthus xallerizetii</i> Aellen                                   | Amara | a   | neo | cas | 1  | 1945 | r     | acc  | hybrid  |                  |     |     |      | Jehlik in F2   |
| <i>Amaranthus blattoides</i> S. Watson                                  | Amara | a   | neo | cas | 7  | 1931 | sc    | acc  | AmN     |                  | 5   |     | yes  | Hejny et al. 1973, Jehlik in F2, Jehlik 1998a            |
| <i>Amaranthus blitum</i> L. subsp. <i>blitum</i>                        | Amara | a   | ar  | cas | 13 |      | sc    | acc  | M       |                  | 6   |     |      | Jehlik in F2   |
| <i>Amaranthus bouchonii</i> Thell.                                      | Amara | a   | neo | cas | 1  | 1948 | v     | acc  | AmN     |                  |     |     |      | Jehlik in F2   |
| <i>Amaranthus caudatus</i> subsp. <i>saueri</i> V. Jehlik               | Amara | a   | neo | cas | 4  | 1838 | sc    | del  | AmS     |                  |     |     |      | Jehlik in F2   |
| <i>Amaranthus crispus</i> (Lesp. et Thévenau) N. Terracc.               | Amara | a   | neo | cas | 8  | 1926 | r     | acc  | AmS     |                  |     |     | yes  | Jehlik in F2   |
| <i>Amaranthus deflexus</i> L.   | Amara | a   | neo | cas | 4  | 1834 | r     | del  | AmC AmS |                  |     |     |      | Jehlik in F2   |
| <i>Amaranthus deflexus</i> L.   | Amara | a   | neo | cas | 8  | 1905 | r     | acc  | AmS     |                  |     |     | yes  | Jehlik in F2, Grüll 1999, Fajmon et al. in A7            |
| <i>Amaranthus graecizans</i> L. subsp. <i>graecizans</i>                | Amara | a   | neo | cas | 1  | 1912 | v     | acc  | M Af    |                  |     |     |      | Jehlik in F2   |
| <i>Amaranthus graecizans</i> subsp. <i>syvestris</i> (Vill.) Brennan    | Amara | a   | ar  | cas | 2  |      | v     | acc  | M       |                  |     |     |      | Jehlik in F2   |
| <i>Amaranthus graecizans</i> subsp. <i>thellungianus</i> (Neyski) Gusev | Amara | a   | neo | cas | 1  | 1965 | v     | acc  | M As    |                  |     |     |      | Jehlik in F2   |
| <i>Amaranthus hybridus</i> L.   | Amara | a   | neo | cas | 1  | 1961 | r     | acc  | AmN AmC |                  |     |     | yes  | Grüll & Priszter 1969, Jehlik in F2                      |
| <i>Amaranthus hypochondriacus</i> L.                                    | Amara | a   | neo | cas | 4  | 1853 | r     | del  | AmS     |                  |     |     |      | Jehlik in F2   |
| <i>Amaranthus xozanonii</i> Thell.                                      | Amara | a   | neo | cas | 1  | 1943 | sc    | acc  | hybrid  |                  |     |     |      | Jehlik in F2   |
| <i>Amaranthus palmieri</i> S. Watson                                    | Amara | a   | neo | cas | 1  | 1908 | r     | acc  | AmN     |                  |     |     |      | Jehlik in F2   |
| <i>Amaranthus powellii</i> S. Watson                                    | Amara | a   | neo | inv | 14 | 1853 | c     | acc  | AmC AmS | 3 <sup>114</sup> | 8   |     |      | Hejny et al. 1973, Jehlik in F2, Jehlik 1998a            |
| <i>Amaranthus quitensis</i> Kunth                                       | Amara | a   | neo | cas | 1  | 1910 | v     | acc  | AmS     |                  |     |     |      | Jehlik in F2   |
| <i>Amaranthus retroflexus</i> L.  | Amara | a   | neo | inv | 14 | 1818 | c     | acc  | AmN AmC | 6 <sup>443</sup> | 10  | yes | yes  | Jehlik in F2   |
| <i>Amaranthus rudis</i> J. D. Sauer                                     | Amara | a   | neo | cas | 1  | 1967 | r     | acc  | AmN     |                  |     |     |      | Jehlik in F2   |
| <i>Amaranthus spinosus</i> L.   | Amara | a   | neo | cas | 1  | 1909 | r     | acc  | AmC AmS |                  |     |     |      | Jehlik in F2   |
| <i>Amaranthus xiaricensis</i> Thell.                                    | Amara | a   | neo | cas | 1  | 1909 | r     | acc  | hybrid  |                  |     |     |      | Jehlik in F2   |
| <i>Amaranthus viridis</i> L.  | Amara | a   | neo | cas | 1  | 1964 | r     | acc  | AmS     |                  |     |     | yes  | Hejny et al. 1973, Jehlik in F2, Jehlik 1998a            |
| <i>Ambrosia artemisiifolia</i> L.                                       | Aster | a   | neo | inv | 14 | 1883 | la    | acc  | AmN     |                  | 5   | yes | yes+ | Hejny et al. 1973, Jehlik 1998a, Slavik in F7            |
| <i>Ambrosia psilostachya</i> DC.  | Aster | pe  | neo | cas | 1  | 1999 | s     | acc  | AmN     |                  | 2   |     |      | Červinka & Sádlo 2000, Slavik in F7                      |
| <i>Ambrosia trifida</i> L.  | Aster | a   | neo | cas | 1  | 1960 | sc    | acc  | AmN AmC |                  | 3   |     | yes+ | Hejny et al. 1973, Jehlik 1998a, Slavik in F7            |
| <i>Amelanchier alnifolia</i> (Nutt.) M. Roem.                           | Rosa  | s t | neo | cas | 4  | 2008 | r     | del  | AmN     |                  |     |     |      | Lepší & Lepší 2008                                       |
| <i>Amelanchier lamarkii</i> F. G. Schroed.                              | Rosa  | s t | neo | cas | 4  | 1867 | r     | del  | AmN     |                  |     |     |      | Lepší & Lepší 2008                                       |
| <i>Amelanchier spicata</i> (Lam.) K. Koch                               | Rosa  | s   | neo | cas | 10 | 1880 | sc    | del  | AmN     |                  | 5   |     |      | Lepší & Lepší 2008                                       |
| <i>Anemni majus</i> L.  | Apiia | a   | neo | cas | 1  | 1898 | r     | acc  | M       |                  |     |     |      | Tomšovic in F5   |
| <i>Anni visnaga</i> (L.) Lam.   | Apiia | a   | neo | cas | 1  | 1987 | v     | acc  | M       |                  |     |     |      | Tomšovic in F5   |
| <i>Ammobium alatum</i> R. Br.   | Aster | a   | neo | cas | 4  | 1942 | r     | del  | Au      |                  |     |     |      | Hadač et al. 1994, Hradilek et al. 1999, Slavíková in F7 |
| <i>Amorpha fruticosa</i> L.   | Faba  | s   | neo | cas | 12 | 1932 | la    | del  | AmN     |                  | 2   | yes |      | Chrková in F4  |
| <i>Amsinckia lycopsoides</i> (Lehm.) Lehm.                              | Bora  | a   | neo | cas | 1  | 2000 | s+v   | acc  | AmN     |                  |     |     |      | Rotreková & Řehorek in A8                                |
| <i>Anacyclus clavatus</i> (Desf.) Pers.                                 | Aster | a   | neo | cas | 4  |      | v     | del  | M       |                  |     |     |      | Skaletká in F7   |
| <i>Anagallis arvensis</i> L.  | Prim  | a   | ar  | cas | 13 |      | c     | acc  | M       | 2 <sup>949</sup> | 9   |     |      | Kovanda in F3  |
| <i>Anagallis xdoeffleri</i> Rom.  | Prim  | a   | ar  | cas | 1  |      | r     | acc  | hybrid  |                  |     |     |      | Kovanda in F3  |

| Taxon  | Fam      | LH   | Res | Inv | PG | Ist  | Abund | Path | Origin     | Cover             | Hab | IEc | IEen | Source   |
|--|----------|------|-----|-----|----|------|-------|------|------------|-------------------|-----|-----|------|--|
| <i>Anagallis foemina</i> Mill.                                   | Prim     | a    | ar  | nat | 6  |      | sc    | acc  | E M        | 2 <sup>97</sup>   | 4   |     |      | Kovanda in F3                                  |
| <i>Anagallis monelli</i> L.                                      | Prim     | a    | neo | cas | 1  | 1953 | v     | acc  | M          |                   |     |     |      | Kovanda in F3                                  |
| <i>Anaphalis margaritacea</i> (L.) Benth.                        | Aster    | pe   | neo | cas | 4  | 1887 | r     | del  | As AmN     |                   | 3   |     |      | Kubát in F7                                    |
| <i>Anchusa azurea</i> Mill.                                      | Bora     | pe   | neo | cas | 1  |      | r     | acc  | M          |                   |     |     |      | Křisa in F6                                    |
| <i>Anchusa officinalis</i> L.                                    | Bora     | b pe | ar  | nat | 6  |      | sc    | acc  | E M        |                   | 4   | yes |      | Křisa in F6                                    |
| <i>Androsace elongata</i> L.                                     | Prim     | a    | ar  | nat | 6  |      | r     | acc  | E          |                   | 5   |     |      | Kovanda in F3                                  |
| <i>Anemula graveolens</i> L.                                     | Apiaceae | a    | ar  | cas | 5  |      | sc    | del  | M          |                   | 2   |     |      | Tomšovic in F5                                 |
| <i>Angelica archangelica</i> L. subsp. <i>archangelica</i>       | Apiaceae | b pe | ar  | inv | 16 |      | la    | del  | E As       |                   | 11  |     |      | Jehlik & Rostaňski 1975, Slavík in F5          |
| <i>Anoda cristata</i> (L.) Sehltdl.                              | Malv     | a pe | neo | cas | 1  | 1973 | r     | acc  | AmN& C & S |                   |     |     |      | Slavík in F3                                   |
| <i>Anthemiscaria dominii</i> Rohlena                             | Aster    | a    | ar  | cas | 1  | 1929 | s+v   | acc  | hybrid     |                   |     |     |      | Dvořáková in F7                                |
| <i>Anthemiscus arvensis</i> L.                                   | Aster    | a    | ar  | nat | 13 |      | c     | acc  | M          | 5 <sup>87</sup>   | 8   | yes |      | Dvořáková in F7                                |
| <i>Anthemiscus cotula</i> L.                                     | Aster    | a    | ar  | nat | 6  |      | sc    | acc  | M          | 6 <sup>69</sup>   | 5   |     |      | Dvořáková in F7                                |
| <i>Anthemiscus cretica</i> subsp. <i>columnae</i> (Ten.) Franzén | Aster    | pe   | neo | cas | 4  | 1871 | s+v   | del  | E          |                   |     |     |      | Dvořáková in F7                                |
| <i>Anthemiscus caucalis</i> M. Bieb.                             | Aster    | a    | ar  | cas | 1  | 1883 | s+v   | acc  | hybrid     |                   |     |     |      | Dvořáková in F7                                |
| <i>Anthoxanthum aristatum</i> Boiss.                             | Poaceae  | a    | neo | cas | 1  |      | r     | acc  | M          |                   |     |     |      | Dostal 1989, Kubát et al. 2002                 |
| <i>Anthriscus caucalis</i> M. Bieb.                              | Apiaceae | a    | ar  | cas | 2  |      | r     | acc  | E M        |                   | 7   |     |      | Slavík in F5, Ondráček in A3                   |
| <i>Anthriscus cerefolium</i> L. var. <i>cerefolium</i>           | Apiaceae | a    | ar  | cas | 4  |      | r     | del  | anec       |                   | 6   |     |      | Slavík in F5, Koutecký in A3                   |
| <i>Anthriscus cerefolium</i> var. <i>trichocarpus</i> Neill.     | Apiaceae | a    | ar  | nat | 9  |      | la    | del  | M          |                   | 9   |     |      | Slavík in F5, Hadinec in A2                    |
| <i>Antirrhinum majus</i> L.                                      | Plant    | pe a | neo | nat | 11 | 1819 | r     | del  | M          |                   | 3   |     |      | Grulich in F6                                  |
| <i>Apera spica-venti</i> (L.) P. Beauv.                          | Poaceae  | a    | ar  | nat | 13 |      | c     | acc  | E M        | 5 <sup>872</sup>  | 15  |     |      | Kubát et al. 2002                              |
| <i>Apium graveolens</i> L.                                       | Apiaceae | b    | ar  | cas | 4  |      | r     | del  | anec       |                   |     |     |      | Tomšovic in F5                                 |
| <i>Aquilegia atrata</i> W. D. J. Koch                            | Ranu     | pe   | neo | cas | 4  |      | r     | del  | E          |                   |     |     |      | Chrtková in F1                                 |
| <i>Arabis alpina</i> L.  | Bras     | pe   | neo | nat | 11 |      | r     | del  | E Af       |                   | 1   |     |      | Štěpánek in F3                                 |
| <i>Arabis caucasca</i> Willd.                                    | Bras     | pe   | neo | nat | 11 | 1957 | r     | del  | E          |                   | 1   |     |      | Štěpánek in F3                                 |
| <i>Arabis procarvensis</i> Waldst. et Kit.                       | Bras     | pe   | neo | nat | 11 |      | r     | del  | E          |                   |     |     |      | Štěpánek in F3                                 |
| <i>Arctium × ambiguum</i> (Celak.) Nyman                         | Aster    | b    | ar  | cas | 1  |      | sc    | acc  | hybrid     |                   |     |     |      | Štěpánek in F7                                 |
| <i>Arctium × cimbriacum</i> (E. H. L. Krause) Hayek              | Aster    | b    | ar  | cas | 1  |      | r     | acc  | hybrid     |                   |     |     |      | Štěpánek in F7                                 |
| <i>Arctium lappa</i> L.  | Aster    | b    | ar  | nat | 13 |      | c     | acc  | E          | 3 <sup>270</sup>  | 24  |     |      | Štěpánek in F7                                 |
| <i>Arctium × mixtum</i> (Simonk.) Nyman                          | Aster    | b    | ar  | cas | 1  |      | sc    | acc  | hybrid     |                   |     |     |      | Štěpánek in F7                                 |
| <i>Arctium × neumanni</i> P. Fourn.                              | Aster    | b    | ar  | cas | 1  |      | sc    | acc  | hybrid     |                   |     |     |      | Štěpánek in F7                                 |
| <i>Arctium × nothum</i> (Ruhmer) J. Weiss                        | Aster    | b    | ar  | cas | 1  |      | sc    | acc  | hybrid     |                   |     |     |      | Štěpánek in F7                                 |
| <i>Arctium tomentosum</i> Mill.                                  | Aster    | b    | ar  | nat | 13 |      | c     | acc  | E          | 6 <sup>382</sup>  | 24  |     |      | Štěpánek in F7                                 |
| <i>Arctotheca calendula</i> (L.) Levyns                          | Aster    | b    | neo | cas | 1  |      | r     | acc  | Af         |                   |     |     | yes  | Belohlávková in F7                             |
| <i>Argemone mexicana</i> L.                                      | Papa     | a    | neo | cas | 1  | 1965 | v     | acc  | AmC        |                   |     |     |      | Kubát in F1                                    |
| <i>Armeria maritima</i> (Mill.) Willd.                           | Plum     | pe   | neo | cas | 4  | 1890 | v     | del  | E          | 2 <sup>127</sup>  | 13  | yes |      | Kovanda in F2                                  |
| <i>Armoracia rusticana</i> G. Gaertn. et al.                     | Bras     | pe   | ar  | nat | 17 |      | c     | del  | E          | 9 <sup>3128</sup> | 62  |     |      | Tomšovic in F3                                 |
| <i>Arrhenatherum elatius</i> (L.) J. Presl et C. Presl           | Poaceae  | pe   | ar  | inv | 18 |      | r     | del  | E          |                   |     |     |      | Kubát et al. 2002                              |
| <i>Artemisia abrotanum</i> L.                                    | Aster    | ss   | ar  | cas | 4  |      | r     | del  | anec       |                   |     |     |      | Grulich in F7                                  |
| <i>Artemisia absinthium</i> L.                                   | Aster    | pe   | ar  | nat | 13 |      | sc    | acc  | M          | 6 <sup>134</sup>  | 22  |     |      | Grulich in F7                                  |
| <i>Artemisia alba</i> Turra                                      | Aster    | pe   | neo | cas | 1  | 1965 | s     | acc  | M          |                   |     |     |      | Grulich in F7, Hadinec & Lustyk 2012           |
| <i>Artemisia alpina</i> Willd.                                   | Aster    | pe   | neo | cas | 4  | 2008 | s     | del  | E M        |                   |     |     |      | Čáp in A9                                      |
| <i>Artemisia annua</i> L.  | Aster    | a    | neo | nat | 8  | 1874 | r     | acc  | M As       |                   | 3   |     |      | Hejny et al. 1973, Jehlik 1998a, Grulich in F7 |

| Taxon  | Fam   | LH  | Res | Inv | PG | Ist     | Abund | Path | Origin  | Cover             | Hab | IEc | IEen | Source  |
|--|-------|-----|-----|-----|----|---------|-------|------|---------|-------------------|-----|-----|------|---|
| <i>Artemisia biennis</i> Willd.  | Aster | pe  | neo | cas | 1  | 1960    | r     | acc  | AmN     |                   | 2   |     |      | Jehlík 1984, Grulich in F7                      |
| <i>Artemisia dracunculata</i> L.   | Aster | pe  | neo | cas | 4  |         | r     | del  | E As    |                   |     |     |      | Grulich in F7                                   |
| <i>Artemisia ludoviciana</i> Nutt. subsp. <i>ludoviciana</i>             | Aster | pe  | neo | cas | 1  | 1971    | s+v   | acc  | AmN     |                   |     |     |      | Grüll 1974, Grulich in F7                       |
| <i>Artemisia repens</i> Willd.   | Aster | pe  | neo | cas | 1  | 1872    | r     | acc  | E M As  |                   |     |     |      | Grulich in F7                                   |
| <i>Artemisia scoparia</i> Waldst. et Kit.                                | Aster | a b | ar  | nat | 6  |         | r     | acc  | E M As  |                   | 4   |     |      | Grulich in F7                                   |
| <i>Artemisia siversiana</i> Willd.                                       | Aster | a b | neo | cas | 1  | 1953    | r     | acc  | E As    |                   |     |     |      | Hejný 1964, Hejný et al. 1973, Grulich in F7    |
| <i>Artemisia toarnaeformis</i> Rchb.                                     | Aster | pe  | neo | nat | 8  | 1964    | sc    | acc  | M As    |                   | 4   |     |      | Grüll 1972, Grulich in F7                       |
| <i>Artemisia verlotiorum</i> Lamotte                                     | Aster | pe  | neo | nat | 10 | 1947    | r     | del  | As      |                   | 6   | yes |      | Gaite & Pyšek 1972, Jehlík 1998a, Grulich in F7 |
| <i>Asclepias syriaca</i> L.  | Apoc  | pe  | neo | inv | 16 | 1901    | r     | del  | AmN     |                   | 8   |     |      | Slavík in F6                                    |
| <i>Asparagus officinalis</i> L. subsp. <i>officinalis</i>                | Aspa  | pe  | neo | nat | 11 | ca 1800 | sc    | del  | As      | 1 <sup>55</sup>   | 13  |     |      | Beřlohlávková & Slavíková in F8                 |
| <i>Asperula procumbens</i> L.  | Bora  | a   | ar  | nat | 6  |         | r     | acc  | M       |                   | 6   |     |      | Křisa in F6                                     |
| <i>Asperula arvensis</i> L.  | Rubi  | a   | ar  | cas | 2  |         | v     | acc  | M       |                   |     |     |      | Kubát in F6                                     |
| <i>Asperula orientalis</i> Boiss. et Hohen.                              | Rubi  | a   | neo | cas | 4  | 1905    | v     | del  | M       |                   |     |     |      | Kubát in F6                                     |
| <i>Aspilbe Arendsii</i> Group  | Saxi  | pe  | neo | cas | 4  | 1999    | s     | del  | anec    |                   |     |     |      | Pyšek et al. 2002                               |
| <i>Astragalus alopecuroides</i> L.                                       | Faba  | pe  | neo | cas | 1  | 1872    | v     | acc  | M       |                   |     |     |      | Chřtková in F4                                  |
| <i>Astragalus glycyphylloides</i> DC.                                    | Faba  | pe  | neo | cas | 1  |         | v     | acc  | E M     |                   |     |     |      | Chřtková & Kubát in F4                          |
| <i>Astragalus orientalis</i> (L.) Drude                                  | Apii  | b   | neo | cas | 2  | 1847    | v     | acc  | E M     |                   |     |     |      | Tomšovic in F5                                  |
| <i>Atocion armeria</i> (L.) Raf.   | Cary  | a   | neo | cas | 4  | 1850    | r     | del  | E M     |                   |     |     |      | Šourková in F2, Grulich in A5                   |
| <i>Atriplex hortensis</i> L.   | Amara | a   | ar  | cas | 4  |         | r     | del  | E       |                   | 1   |     |      | Kirschner & Tomšovic in F2                      |
| <i>Atriplex litoralis</i> L.   | Amara | a   | neo | cas | 1  | 1977    | s+v   | acc  | E M AmN |                   |     |     |      | Kirschner & Tomšovic in F2                      |
| <i>Atriplex micrantha</i> Ledeb.   | Amara | a   | neo | cas | 1  | 1967    | r     | acc  | E As    |                   |     |     |      | Kirschner & Tomšovic in F2, Jehlík 1998b        |
| <i>Atriplex norhusiana</i> K. Wein                                       | Amara | a   | ar  | cas | 1  |         | r     | acc  | hybrid  |                   |     |     |      | Kirschner & Tomšovic in F2                      |
| <i>Atriplex oblongifolia</i> Waldst. et Kit.                             | Amara | a   | ar  | nat | 13 |         | c     | acc  | E M As  | 16 <sup>89</sup>  | 9   |     |      | Kirschner & Tomšovic in F2                      |
| <i>Atriplex patula</i> L.  | Amara | a   | ar  | nat | 13 |         | c     | acc  | E M As  | 3 <sup>790</sup>  | 14  |     |      | Kirschner & Tomšovic in F2                      |
| <i>Atriplex rosea</i> L.   | Amara | a   | ar  | cas | 2  |         | r     | acc  | E M     |                   | 2   |     |      | Kirschner & Tomšovic in F2                      |
| <i>Atriplex sagittata</i> Borkh.   | Amara | a   | neo | cas | 1  | 1963    | v     | acc  | E M As  | 23 <sup>257</sup> | 12  |     |      | Kirschner & Tomšovic in F2                      |
| <i>Atriplex semilunaris</i> Aellen                                       | Amara | a   | neo | cas | 1  |         | v     | acc  | Au      |                   |     |     |      | Kirschner & Tomšovic in F2                      |
| <i>Atriplex sibirica</i> L.  | Amara | a   | neo | cas | 1  | 1939    | v     | acc  | As      |                   |     |     |      | Kirschner, Tomšovic in F2                       |
| <i>Atriplex tatarica</i> L.  | Amara | a   | ar  | nat | 13 |         | la    | acc  | M As    | 13 <sup>86</sup>  | 7   |     |      | Kirschner & Tomšovic in F2                      |
| <i>Aubrieta deltoidea</i> (L.) DC.                                       | Bras  | pe  | neo | cas | 4  |         | r     | del  | M       |                   |     |     |      | Dvořák in F3                                    |
| <i>Avena barbata</i> Link  | Poac  | a   | neo | cas | 1  |         | s+v   | acc  | M       |                   |     |     |      | Dostál 1989                                     |
| <i>Avena fatua</i> L.  | Poac  | a   | ar  | nat | 13 |         | c     | acc  | M       |                   | 6   |     |      | Dostál 1989, Kubát et al. 2002                  |
| <i>Avena sativa</i> Chinensis Group                                      | Poac  | a   | neo | cas | 1  |         | r     | acc  | anec    |                   |     |     |      | Kubát et al. 2002                               |
| <i>Avena sativa</i> Praegravis Group                                     | Poac  | a   | neo | cas | 1  |         | r     | acc  | anec    |                   |     |     |      | Kubát et al. 2002                               |
| <i>Avena sativa</i> Sativa Group   | Poac  | a   | ar  | cas | 5  |         | c     | del  | anec    |                   | 4   |     |      | Dostál 1989, Kubát et al. 2002                  |
| <i>Avena sterilis</i> L. subsp. <i>sterilis</i>                          | Poac  | a   | neo | cas | 4  | 1922    | v     | del  | M       |                   |     |     |      | Dostál 1989, Kubát et al. 2002                  |
| <i>Avena sterilis</i> subsp. <i>ludoviciana</i> (Durieu) Gillet et Magne | Poac  | a   | neo | cas | 1  | 1965    | v     | acc  | M       |                   |     |     |      | this study                                      |
| <i>Avena strigosa</i> Schreb.  | Poac  | a   | ar  | nat | 9  |         | r     | del  | E       |                   | 2   | yes |      | Dostál 1989, Kubát et al. 2002                  |
| <i>Avena xvilis</i> Wallr.   | Poac  | a   | ar  | cas | 1  |         | r     | acc  | hybrid  |                   |     |     |      | this study                                      |
| <i>Axyris amaranthoides</i> L.   | Amara | a   | neo | cas | 1  | 1953    | s+v   | acc  | As      |                   |     |     |      | Tomšovic in F2                                  |

| Taxon  | Fam   | LH           | Res | Inv | PG | Ist   | Abund | Path | Origin  | Cover            | Hab | IEc | IEen | Source   |
|--|-------|--------------|-----|-----|----|-------|-------|------|---------|------------------|-----|-----|------|--|
| <i>Azolla filiculoides</i> Lam.  | Salv  | a pe f<br>aq | neo | nat | 10 | 1895  | r     | del  | AmN     |                  | 3   | yes | yes  | Křísa in F1  |
| <i>Ballota nigra</i> L. subsp. <i>nigra</i>  | Lami  | pe           | ar  | nat | 13 |       | c     | acc  | E M     | 8 <sup>663</sup> | 25  |     |      | Štěpánková in F6   |
| <i>Ballota nigra</i> subsp. <i>meridionalis</i> (Bég.) Bég.                        | Lami  | pe           | neo | cas | 1  | 1932  | r     | acc  | E M     |                  |     |     |      | Štěpánková in F6   |
| <i>Basella rubra</i> L.  | Base  | a (pe)       | neo | cas | 4  | 1901  | v     | del  | As      |                  |     |     |      | Tomšovic in F2   |
| <i>Bassia scoparia</i> (L.) Voss subsp. <i>scoparia</i>                            | Amara | a            | neo | inv | 14 | 1819  | sc    | acc  | E M As  |                  | 2   |     |      | Tomšovic in F2, Jehlík 1998a                                   |
| <i>Bassia scoparia</i> (L.) Voss subsp. <i>scoparia</i><br>"Trichophylla"          | Amara | a            | neo | cas | 4  | 1819  | sc    | del  | E M As  |                  |     |     |      | Tomšovic in F2   |
| <i>Bassia scoparia</i> subsp. <i>densiflora</i> (B. D. Jacks.)<br>Cruja et Velayos | Amara | a            | neo | inv | 14 | 1901  | sc    | acc  | E M As  |                  |     |     |      | Tomšovic in F2, Jehlík 1998a                                   |
| <i>Beckmannia erucaformis</i> (L.) Host subsp. <i>erucaformis</i>                  | Poac  | pe           | neo | cas | 1  |       | r     | acc  | E As    |                  |     |     |      | Vicherek et al. 2000, Kubát et al. 2002                        |
| <i>Beckmannia syzigachme</i> (Steud.) Fernald                                      | Poac  | a            | neo | cas | 1  | 1995  | r     | acc  | As AmN  |                  | 2   |     |      | Kubát et al. 2002, Jelínková in A9                             |
| <i>Bellidiastrum michelii</i> Cass.  | Aster | pe           | neo | cas | 4  |       | r     | del  | E       |                  |     |     |      | Bělohávková in F7  |
| <i>Berberis julianae</i> C. K. Scheid.   | Berb  | s            | neo | cas | 4  | 2010  | s     | del  | As      |                  |     |     |      | this study   |
| <i>Berberis thunbergii</i> DC.   | Berb  | s            | neo | cas | 4  | 2011  | s     | del  | As      |                  |     |     |      | this study   |
| <i>Bergenia crassifolia</i> (L.) Fritsch   | Saxi  | pe           | neo | cas | 4  |       | r     | del  | As      |                  |     |     |      | Hrouda & Šourková in F3  |
| <i>Bertiera incana</i> (L.) DC. subsp. <i>incana</i>                               | Bras  | a b pe       | ar  | nat | 13 |       | c     | acc  | E M As  | 4 <sup>177</sup> | 18  |     |      | Smejkal in F3  |
| <i>Bertiera incana</i> subsp. <i>stricta</i> (Boiss. et Heldr.) Stoj.<br>et Stef.  | Bras  | a b pe       | neo | cas | 1  | 1960  | v     | acc  | M       |                  |     |     |      | Smejkal in F3, Smejkal 1994                                    |
| <i>Beta trigyna</i> Waldst. et Kit.  | Amara | pe           | neo | cas | 4  | 1935  | r     | del  | E M     |                  |     |     |      | Tomšovic in F2   |
| <i>Beta vulgaris</i> Altissima Group   | Amara | b a          | neo | inv | 14 | 1980s | la    | acc  | hybrid  |                  |     |     |      | Skalický & Pulkrabek 2006, Landová et al. 2010                 |
| <i>Beta vulgaris</i> Cicla Group   | Amara | b a          | ar  | cas | 4  |       | r     | del  | ane     |                  |     |     |      | Pyšek et al. 2002  |
| <i>Beta vulgaris</i> Vulgaris Group  | Amara | ba           | ar  | cas | 4  |       | r     | del  | ane     |                  |     |     |      | Pyšek et al. 2002  |
| <i>Bidens connatus</i> Willd.  | Aster | a            | neo | cas | 1  | 1940s | r     | acc  | AmN     |                  |     |     |      | Lhotská 1968a, Štěpánková in F7                                |
| <i>Bidens ferulifolius</i> (Jacq.) Sweet   | Aster | a            | neo | cas | 4  | 2006  | r     | del  | AmN     |                  |     |     |      | this study   |
| <i>Bidens frondosus</i> L.   | Aster | a            | neo | inv | 14 | 1894  | c     | acc  | AmN     | 6 <sup>845</sup> | 22  | yes | yes  | Hejny 1948, Lhotská 1968a, Hejny et al. 1973, Štěpánková in F7 |
| <i>Bidens pilosus</i> L.   | Aster | a            | neo | cas | 1  | 1981  | r     | acc  | AmN AmC |                  |     |     |      | Štěpánková in F7   |
| <i>Bifora radians</i> M. Bieb.   | Apiac | a            | ar  | nat | 6  |       | r     | acc  | AmS     |                  | 3   |     |      | Křísa in F5  |
| <i>Bisorta amplexicaulis</i> (D. Don) Greene                                       | Poly  | pe           | neo | cas | 4  | 1966  | r     | del  | As      |                  |     |     |      | Chrtěk in F2   |
| <i>Bolboschoenus glaucus</i> (Lam.) S. G. Sm.                                      | Cype  | pe           | neo | nat | 7  | 1925  | s     | acc  | E M Af  |                  |     |     |      | Hroudová et al. 1999, Kubát et al. 2002                        |
| <i>Borago officinalis</i> L.   | Bora  | a            | ar  | cas | 4  |       | r     | del  | M       |                  | 1   |     |      | Křísa in F6  |
| <i>Brachypodium rupestre</i> (Host) Roem. et Schult.                               | Poac  | pe           | neo | nat | 7  | 1891  | r     | acc  | E M     |                  |     |     |      | Opiz 1852, Dostál 1989, Dančák & Hadinec in A10                |
| <i>Brassica elongata</i> Ehrh. subsp. <i>elongata</i>                              | Bras  | b pe         | neo | cas | 1  | 1873  | r     | acc  | E       |                  | 4   |     |      | Zelený in F3   |
| <i>Brassica elongata</i> subsp. <i>integrifolia</i> (Boiss.) Breistr.              | Bras  | b pe         | neo | cas | 1  | 1960  | v     | acc  | E As    |                  |     | yes |      | Zelený in F3   |
| <i>Brassica juncea</i> (L.) Czern.   | Bras  | a            | neo | cas | 4  | 1963  | r     | del  | As      |                  | 3   |     |      | Zelený in F3   |
| <i>Brassica napus</i> Napus Group  | Bras  | a            | ar  | cas | 5  |       | sc    | del  | ane     |                  | 8   |     |      | Zelený in F3   |
| <i>Brassica nigra</i> (L.) W. D. J. Koch   | Bras  | a            | ar  | nat | 9  |       | r     | del  | M       |                  | 7   |     |      | Zelený in F3   |
| <i>Brassica oleracea</i> L.  | Bras  | a b pe       | ar  | cas | 5  |       | r     | acc  | M       |                  | 5   |     |      | Zelený in F3   |

| Taxon  | Fam   | LH | Res | Inv | PG  | Ist   | Abund | Path | Origin | Cover            | Hab | IEc | IEi | Source  |
|--|-------|----|-----|-----|-----|-------|-------|------|--------|------------------|-----|-----|-----|---|
| <i>Brassica rapa</i> L. var. <i>rapa</i>   | Bras  | a  | ar  | cas | 5   |       | sc    | del  | M      |                  | 7   |     |     | Zelený in F3  |
| <i>Brassica rapa</i> var. <i>sylvestris</i> (Lam.) Briggs                              | Bras  | b  | neo | cas | 1   | 1964  | r     | acc  | M      |                  |     |     |     | Kühn 1968, Zelený in F3   |
| <i>Briza maxima</i> L.   | Poac  | a  | neo | cas | 4   |       | r     | del  | M      |                  |     |     |     | Dostál 1989, Kubát et al. 2002  |
| <i>Briza minor</i> L.  | Poac  | a  | neo | cas | 1   |       | r     | acc  | M      |                  |     |     |     | Kubát et al. 2002   |
| <i>Bromus arvensis</i> L.  | Poac  | a  | neo | cas | 2   |       | r     | acc  | M      |                  | 3   |     |     | Kubát et al. 2002   |
| <i>Bromus briziformis</i> Fisch. et C. A. Mey.   | Poac  | a  | neo | cas | 4   |       | r     | del  | M      |                  |     |     |     | Dostál 1989, Kubát et al. 2002  |
| <i>Bromus carinatus</i> Hook. et Arn.  | Poac  | a  | neo | nat | 10  | 1934  | sc    | del  | AmN    |                  |     |     |     | Dostál 1989, Svobodová & Řehořek 1996, Kubát et al. 2002, Řehořek in A1               |
| <i>Bromus catharticus</i> Vahl   | Poac  | a  | neo | cas | 1   | 1853  | r     | acc  | AmS    |                  |     | yes |     | Dostál 1989, Kubát et al. 2002, Řehořek in A1   |
| <i>Bromus commutatus</i> Schrad.   | Poac  | a  | ar  | nat | 6   |       | r     | acc  | M      |                  | 4   |     |     | Kubát et al. 2002   |
| <i>Bromus hordeaceus</i> L. subsp. <i>hordeaceus</i>                                   | Poac  | a  | ar  | nat | 13  |       | c     | acc  | M      | 2 <sup>30</sup>  | 24  |     |     | Kubát et al. 2002   |
| <i>Bromus japonicus</i> Thunb.   | Poac  | a  | ar  | nat | 6   |       | sc    | acc  | M      | 1 <sup>36</sup>  | 5   |     |     | Kubát et al. 2002   |
| <i>Bromus lanceolatus</i> Roth   | Poac  | a  | neo | cas | 1   | 1848  | r     | acc  | M      |                  |     |     |     | Dvořák & Kühn 1966, Dostál 1989, Kubát et al. 2002                                    |
| <i>Bromus lepidus</i> Holmb.   | Poac  | a  | neo | cas | 1   | 1883  | r     | acc  | E      |                  |     |     |     | Kubát et al. 2002   |
| <i>Bromus madritensis</i> L.   | Poac  | a  | neo | cas | 1   | 1926  | r     | acc  | M      |                  |     |     |     | Dvořák & Kühn 1966, Dostál 1989, Kubát et al. 2002                                    |
| <i>Bromus rigidus</i> Roth   | Poac  | a  | neo | cas | 1   | 1929  | r     | acc  | M      |                  |     |     |     | Kubát et al. 2002   |
| <i>Bromus rubens</i> L.  | Poac  | a  | neo | cas | 1   | 1961  | s+v   | acc  | M      |                  |     |     |     | Dvořák & Kühn 1966, Dostál 1989, Kubát et al. 2002                                    |
| <i>Bromus scoparius</i> L.   | Poac  | a  | neo | cas | 1   | 1920s | s+v   | acc  | MAs    |                  |     |     |     | Dvořák & Kühn 1966, Dostál 1989, Kubát et al. 2002                                    |
| <i>Bromus secalinus</i> L.   | Poac  | a  | ar  | cas | 2   |       | r     | acc  | M      |                  | 3   |     |     | Kubát et al. 2002, Lososová & Šumberová in A4   |
| <i>Bromus sterilis</i> L.  | Poac  | a  | ar  | nat | 13  |       | c     | acc  | M      | 7 <sup>23</sup>  | 16  |     |     | Kubát et al. 2002   |
| <i>Bromus tectorum</i> L.  | Poac  | a  | ar  | nat | 13  |       | c     | acc  | M      | 5 <sup>26</sup>  | 20  |     |     | Kubát et al. 2002   |
| <i>Brunnera macrophylla</i> (Adam) I. M. Johnst.                                       | Bora  | pe | neo | cas | 4   | 1965  | r     | del  | E M    |                  |     |     | yes | Holub 1970, Křísa in F6, Kaplan in A8   |
| <i>Bryonia alba</i> L.   | Cucu  | pe | ar  | nat | 13  |       | c     | acc  | M      |                  | 10  |     |     | Chrtková in F2  |
| <i>Bryonia dioica</i> Jacq.  | Cucu  | pe | ar  | nat | 10  |       | sc    | del  | E M    |                  | 4   |     |     | Chrtková in F2  |
| <i>Buddleia alternifolia</i> Maxim.  | Scro  | s  | neo | cas | 4   | 2011  | s     | del  | As     |                  |     |     |     | this study  |
| <i>Buddleia davidii</i> Franch.  | Scro  | s  | neo | cas | 12  | 2000  | r     | del  | As     |                  | 2   | yes |     | Pýšek et al. 2002   |
| <i>Buglossoides arvensis</i> (L.) I. M. Johnst. subsp. <i>arvensis</i>                 | Bora  | a  | ar  | nat | 13  |       | sc    | acc  | M      | 3 <sup>189</sup> | 9   |     |     | Slavík in F6  |
| <i>Buglossoides incrassata</i> (Guss.) I. M. Johnst. subsp. <i>incrassata</i>          | Bora  | a  | neo | cas | 2   | 2005  | s     | acc  | E M    |                  |     |     |     | Jongepier in A5, this study   |
| <i>Buglossoides incrassata</i> subsp. <i>splittigerberi</i> (Guss.) E. Zippel et Selvi | Bora  | a  | ar  | nat | 6   |       | sc    | acc  | E M    |                  |     |     |     | this study, Clermont et al. 2003  |
| <i>Buntias erucago</i> L.  | Bras  | b  | pe  | neo | cas | 1     | r     | acc  | M      |                  |     |     |     | Smejkal in F3   |
| <i>Buntias orientalis</i> L.   | Bras  | b  | pe  | neo | inv | 14    | 1856  | la   | E      |                  | 9   | yes |     | Jehliík & Slavík 1968, Hejny et al. 1973, Smejkal in F3, Jehliík 1998a, Křivánek 2004 |
| <i>Bunium bulbocastanum</i> L.   | Apiac | pe | neo | cas | 1   | 1879  | v     | acc  | EAs    |                  |     | yes |     | Tomšovic in F5  |
| <i>Bupleurum croceum</i> Fenzl   | Apiac | a  | neo | cas | 1   | 1943  | s+v   | acc  | M      |                  |     |     |     | Snogerup & Snogerup 2001, Hadinec in A1   |
| <i>Bupleurum pachnospermum</i> Pančić  | Apiac | a  | neo | cas | 4   | 1885  | s+v   | del  | E      |                  |     |     |     | Snogerup & Snogerup 2001  |
| <i>Bupleurum rotundifolium</i> L.  | Apiac | a  | ar  | cas | 2   |       | r     | acc  | M      |                  | 2   |     |     | Šourková & Hroudá in F5, Štefánek in A4   |

| Taxon   | Fam   | LH    | Res | Inv | PG | Ist     | Abund | Path | Origin    | Cover             | Hab | IEc | IE n | Source   |
|---|-------|-------|-----|-----|----|---------|-------|------|-----------|-------------------|-----|-----|------|--|
| <i>Buxus sempervirens</i> L.  | Buxa  | s (l) | neo | cas | 4  |         | r     | del  | E M       |                   |     |     |      | this study   |
| <i>Cakile maritima</i> subsp. <i>baltica</i> (Rouy et Fouc.) P. W. Ball | Bras  | a     | neo | cas | 1  | 1929    | v     | acc  | E         |                   |     |     |      | Dvořák in F3                                       |
| <i>Cakile maritima</i> subsp. <i>euxina</i> (Pobed.) Nyár.              | Bras  | a     | neo | cas | 1  | 1960    | v     | acc  | E         |                   |     |     |      | Dvořák in F3                                       |
| <i>Calandrinia compressa</i> DC.  | Port  | a     | neo | cas | 4  | 1853    | r     | del  | AmS       |                   |     |     |      | Sekera 1854, Skalický & Sutorý in F2               |
| <i>Calendula arvensis</i> L.  | Aster | a     | neo | cas | 1  | 1901    | r     | acc  | M         |                   |     |     |      | Slavíková in F7                                    |
| <i>Calendula officinalis</i> L.   | Aster | a     | neo | cas | 4  | 1872    | sc    | del  | anec      |                   | 2   |     |      | Dostál 1989, Slavíková in F7                       |
| <i>Callistephus chinensis</i> (L.) Nees                                 | Aster | pe    | neo | cas | 4  | ca 1986 | s     | del  | As        |                   |     |     |      | Bělohávková in F7                                  |
| <i>Calystegia hederacea</i> Wall.                                       | Conv  | pe    | neo | cas | 4  | ca 1986 | s     | del  | As        |                   |     |     |      | Trávníček & Dančák 2011                            |
| <i>Calystegia pulchra</i> Brummit et Heywood                            | Conv  | pe    | neo | nat | 9  | 1857    | r     | del  | As        |                   | 4   |     |      | Holub 1971, Křísa in F6                            |
| <i>Camelina abyssum</i> (Mill.) Thell. subsp. <i>alyssum</i>            | Bras  | a     | ar  | cas | 2  |         | v     | acc  | anec      |                   |     |     |      | Smejkal in F3                                      |
| <i>Camelina abyssum</i> subsp. <i>integerrima</i> (Čelak.) Smejkal      | Bras  | a     | ar  | cas | 2  |         | v     | acc  | E M As    |                   |     |     |      | Smejkal in F3                                      |
| <i>Camelina laxa</i> C. A. Mey.   | Bras  | a     | neo | cas | 1  | 1958    | v     | acc  | M         |                   |     |     |      | Chřek & Žertová 1958, Smejkal in F3                |
| <i>Camelina microcarpa</i> DC. subsp. <i>microcarpa</i>                 | Bras  | a     | ar  | nat | 7  |         | sc    | acc  | E As      |                   | 7   |     |      | Smejkal in F3                                      |
| <i>Camelina microcarpa</i> subsp. <i>pilosa</i> (DC.) Hiitonen          | Bras  | a     | ar  | nat | 7  |         | sc    | acc  | E M As    | 1 <sup>70</sup>   |     |     |      | Smejkal in F3                                      |
| <i>Camelina rumelica</i> Velen.   | Bras  | b     | neo | cas | 1  | 1963    | r     | acc  | M         |                   |     |     |      | Smejkal in F3                                      |
| <i>Camelina sativa</i> (L.) Crantz var. <i>sativa</i>                   | Bras  | a     | neo | cas | 3  |         | v     | del  | anec      |                   |     |     |      | Smejkal in F3                                      |
| <i>Camelina sativa</i> var. <i>zingeri</i> Mirek                        | Bras  | a     | neo | cas | 1  |         | v     | acc  | M         |                   |     |     |      | Smejkal in F3                                      |
| <i>Campanula alliariifolia</i> Willd.                                   | Camp  | pe    | neo | cas | 4  | 1974    | s     | acc  | hybrid    |                   |     |     |      | Smejkal in F3                                      |
| <i>Campanula xiseraana</i> Kovanda                                      | Camp  | pe    | neo | cas | 1  | 1973    | s     | del  | M         |                   |     |     |      | Smejkal in F3                                      |
| <i>Campanula lactiflora</i> M. Bieb.                                    | Camp  | pe    | neo | cas | 4  | 1968    | r     | del  | M         |                   |     |     |      | Kovanda in F6                                      |
| <i>Campanula rapunculoides</i> L.                                       | Camp  | b     | neo | cas | 1  | 1892    | r     | acc  | E M       |                   |     |     |      | Kovanda in F6                                      |
| <i>Campanula rhomboidealis</i> L.                                       | Camp  | pe    | neo | nat | 11 | 1880    | r     | del  | M         |                   |     |     |      | Kovanda & Husová 1976, Kovanda 1996, Kovanda in F6 |
| <i>Cannabis sativa</i> L. var. <i>sativa</i>                            | Cann  | a     | ar  | cas | 4  |         | r     | del  | E M       |                   | 3   |     |      | Chřek in F1  |
| <i>Cannabis sativa</i> var. <i>spontanea</i> Vavilov                    | Cann  | a     | neo | inv | 14 | 1868    | la    | acc  | E M As    |                   | 2   |     |      | Soják 1962, Chřek in F1, Jehlík 1998a              |
| <i>Capsella bursa-pastoris</i> (L.) Medik.                              | Bras  | a b   | ar  | nat | 13 |         | c     | acc  | M         | 2 <sup>2182</sup> | 24  |     |      | Dvořáková in F3                                    |
| <i>Capsella rubella</i> Reut.   | Bras  | a     | neo | cas | 1  | 2006    | s     | acc  | M         |                   |     |     |      | Jongepier in A6                                    |
| <i>Caragana arborescens</i> Lam.  | Faba  | s t   | neo | cas | 4  |         | r     | del  | As        |                   |     |     |      | Tichá 2004   |
| <i>Cardamine chelidonia</i> L.  | Bras  | a pe  | neo | nat | 8  | 1930    | r     | acc  | M         |                   | 7   |     |      | Kučera 1991, Hrouda in F3, Pauliš in A6, A7        |
| <i>Cardamine hirsuta</i> L.   | Bras  | a b   | ar  | nat | 7  |         | r     | acc  | E M Af As |                   | 8   |     |      | Marhold in F3                                      |
| <i>Carduus acanthoides</i> L.   | Aster | b     | ar  | nat | 13 |         | c     | acc  | M         | 2 <sup>389</sup>  | 24  |     |      | Štěpánková in F7                                   |
| <i>Carduus xleptcephalus</i> Peterm.                                    | Aster | b     | ar  | cas | 1  |         | r     | acc  | hybrid    |                   |     |     |      | Štěpánková in F7                                   |
| <i>Carduus xorthocephalus</i> Wallr.                                    | Aster | b     | ar  | cas | 1  |         | r     | acc  | hybrid    |                   |     |     |      | Štěpánková in F7                                   |
| <i>Carduus tenuiflorus</i> Curtis                                       | Aster | a b   | neo | cas | 1  | 1967    | s+v   | acc  | E         |                   |     |     |      | Pyšek et al. 2002                                  |
| <i>Carex grayi</i> J. Carey   | Cype  | pe    | neo | cas | 4  | 2010    | s+v   | del  | AmN       |                   |     |     |      | Hrbáč in A10                                       |
| <i>Carex muskingumensis</i> Schwein.                                    | Cype  | pe    | neo | cas | 1  | 1947    | s+v   | acc  | AmN       |                   |     |     |      | Jedlička 1949, Grüll 1952, Pyšek et al. 2002       |
| <i>Carthamus lanatus</i> L.   | Aster | a b   | neo | cas | 1  | 1958    | v     | acc  | M         |                   |     |     |      | Dvořák & Kühn 1966, Zelený in F7                   |
| <i>Carthamus tinctorius</i> L.  | Aster | a b   | neo | cas | 4  | 1876    | r     | del  | M         |                   |     |     |      | Zelený in F7                                       |
| <i>Castanea sativa</i> Mill.  | Faga  | t     | neo | cas | 4  |         | r     | del  | E M       |                   | 4   |     |      | Pyšek et al. 2002                                  |
| <i>Catalpa bignonioides</i> Walter                                      | Bign  | t     | neo | cas | 4  |         | r     | del  | AmN       |                   |     |     |      | Skalická in F6                                     |
| <i>Catapodium rigidum</i> (L.) C. E. Hubb.                              | Poac  | a     | neo | cas | 1  |         | r     | acc  | E M       |                   |     |     |      | Dostál 1989  |

| Taxon   | Fam             | LH  | Res | Inv | PG | Ist     | Abund | Path | Origin | Cover           | Hab | IEc | IE n | Source                                   |
|---|-----------------|-----|-----|-----|----|---------|-------|------|--------|-----------------|-----|-----|------|--|
| <i>Caucalis platycarpus</i> L. subsp. <i>platycarpus</i>              | Apiaceae        | a   | ar  | nat | 6  |         | r     | acc  | M      | 4 <sup>79</sup> | 6   |     |      | Hrouda in F5                             |
| <i>Caucalis platycarpus</i> subsp. <i>muricata</i> (Čelak.) Holub     | Apiaceae        | a   | ar  | cas | 2  |         | r     | acc  | M      |                 |     |     |      | Hrouda in F5                             |
| <i>Celastrus orbiculatus</i> Thunb.                                   | Celastraceae    | s   | neo | cas | 4  |         | s     | del  | As     |                 | 2   |     |      | Skalická in F5, Červinka & Sádlo 2000    |
| <i>Celosia argentea</i> Cristata Group                                | Amara           | a   | neo | cas | 4  | 1902    | r     | del  | ane    |                 |     |     |      | Jehlička in F2                           |
| <i>Celtis occidentalis</i> L.   | Cannaceae       | t   | neo | cas | 4  | 2001    | r     | del  | AmN    |                 |     |     |      | Pyšek et al. 2002                        |
| <i>Cenchrus echinatus</i> L.  | Poaceae         | a   | neo | cas | 1  |         | r     | acc  | AmN    |                 |     |     |      | Kubát et al. 2002                        |
| <i>Centaurea benedicta</i> (L.) L.                                    | Asteraceae      | a   | ar  | cas | 4  |         | r     | del  | M      |                 |     |     |      | Bělohávková in F7                        |
| <i>Centaurea calcitrapa</i> L.  | Asteraceae      | a   | neo | cas | 1  | 1872    | r     | acc  | M      |                 |     |     |      | Štěpánek & Koutecký in F7                |
| <i>Centaurea carniohica</i> Host                                      | Asteraceae      | pe  | neo | cas | 1  | 1914    | s     | acc  | E      | 4 <sup>29</sup> | 7   |     |      | Koutecký 2008                            |
| <i>Centaurea cyanus</i> L.  | Asteraceae      | a   | ar  | nat | 13 |         | sc    | acc  | ane    |                 |     |     |      | Štěpánek & Koutecký in F7                |
| <i>Centaurea diffusa</i> Lam.   | Asteraceae      | b   | neo | nat | 8  |         | r     | acc  | M      |                 | 3   |     |      | Štěpánek & Koutecký in F7                |
| <i>Centaurea jextreana</i> Beck                                       | Asteraceae      | pe  | neo | cas | 1  |         | r     | acc  | hybrid |                 |     |     |      | Štěpánek & Koutecký in F7                |
| <i>Centaurea xgerstlauei</i> Erdner                                   | Asteraceae      | pe  | neo | cas | 1  |         | r     | acc  | hybrid |                 |     |     |      | Štěpánek & Koutecký in F7                |
| <i>Centaurea xjavorkeae</i> Budai et J. Wagner                        | Asteraceae      | pe  | neo | cas | 1  | 1933    | s     | acc  | hybrid |                 |     |     |      | Štěpánek & Koutecký in F7                |
| <i>Centaurea macrocephala</i> Willd.                                  | Asteraceae      | pe  | neo | cas | 4  |         | r     | del  | E      |                 |     |     |      | Štěpánek & Koutecký in F7                |
| <i>Centaurea melitensis</i> L.  | Asteraceae      | a   | neo | cas | 1  | 1901    | v     | acc  | M      |                 |     |     |      | Štěpánek & Koutecký in F7                |
| <i>Centaurea nigra</i> L.   | Asteraceae      | pe  | neo | nat | 7  | 1872    | r     | acc  | E      |                 | 5   |     |      | Štěpánek & Koutecký in F7                |
| <i>Centaurea nigrescens</i> Willd.                                    | Asteraceae      | pe  | neo | cas | 1  | 1823    | r     | acc  | M      |                 | 4   |     |      | Štěpánek & Koutecký in F7                |
| <i>Centaurea xpsammogena</i> Gáyer                                    | Asteraceae      | b   | neo | cas | 1  |         | s     | acc  | hybrid |                 |     |     |      | Štěpánek & Koutecký in F7                |
| <i>Centaurea solstitialis</i> L. subsp. <i>solstitialis</i>           | Asteraceae      | a   | neo | cas | 1  | 1823    | r     | acc  | M      |                 | 3   |     |      | Štěpánek & Koutecký in F7                |
| <i>Centaurea transalpina</i> DC.                                      | Asteraceae      | pe  | neo | cas | 1  | ca 1900 | s     | acc  | E      |                 |     |     |      | Koutecký 2008                            |
| <i>Centranthus ruber</i> (L.) DC.                                     | Vale            | pe  | neo | cas | 4  | 1880    | r     | del  | M      |                 | 1   |     |      | Holub & Kirschner in F5                  |
| <i>Cephalaria gigantea</i> (Ledeb.) Bobrov                            | Dipsacaceae     | pe  | neo | cas | 4  | 1951    | r     | del  | E      |                 |     |     |      | Smejkal 1952, Štěpánek & Holub in F5     |
| <i>Cephalaria syriaca</i> (L.) Roem. et Schult.                       | Dipsacaceae     | a   | neo | cas | 1  | 1948    | s+v   | acc  | M      |                 |     |     |      | Štěpánek & Holub in F5                   |
| <i>Cerastium arvense</i> subsp. <i>arvense</i> × <i>C. tomentosum</i> | Caryophyllaceae | pe  | neo | nat | 11 |         | sc    | del  | hybrid |                 | 4   |     |      | Pyšek et al. 2002                        |
| <i>Cerastium tomentosum</i> L.  | Caryophyllaceae | pe  | neo | nat | 11 |         | sc    | del  | M      |                 | 3   |     |      | Smejkal in F2                            |
| <i>Chaenomeles japonica</i> (Thunb.) Spach                            | Rosaceae        | s   | neo | cas | 4  | 1986    | s     | del  | As     |                 |     |     |      | Pyšek et al. 2002                        |
| <i>Chaerophyllum nodosum</i> (L.) Crantz                              | Apiaceae        | a   | neo | cas | 1  | 1997    | s     | acc  | E M    |                 |     |     |      | Filippov 1999                            |
| <i>Chamaecyparis lawsoniana</i> (A. Murray) Parl.                     | Cupressaceae    | t   | neo | cas | 4  |         | r     | del  | AmN    |                 |     |     |      | Pyšek et al. 2002                        |
| <i>Chamaecyparis elongatus</i> (Waldst. et Kit.) Link                 | Fabaceae        | s   | neo | nat | 9  |         | r     | del  | E      |                 |     |     |      | Skalická in F4                           |
| <i>Chelidonium majus</i> L.   | Papaveraceae    | pe  | ar  | nat | 13 |         | c     | acc  | E M As | 4 <sup>60</sup> | 26  |     |      | Kubát in F1                              |
| <i>Chenopodium acuminatum</i> Willd.                                  | Amara           | a   | neo | cas | 1  | 1953    | v     | acc  | As     |                 |     |     |      | Dostálek et al. in F2                    |
| <i>Chenopodium album</i> subsp. <i>pedunculare</i> (Bertol.) Arcang.  | Amara           | a   | ar  | nat | 13 |         | c     | acc  | E      |                 | 7   |     |      | Dostálek et al. in F2                    |
| <i>Chenopodium berlandieri</i> subsp. <i>schackeri</i> (Murr) Zobel   | Amara           | a   | neo | cas | 1  |         | r     | acc  | AmN    |                 |     |     |      | Dostálek et al. in F2                    |
| <i>Chenopodium bonus-henricus</i> L.                                  | Amara           | pe  | ar  | nat | 13 |         | c     | acc  | E      | 9 <sup>85</sup> | 9   |     |      | Dostálek et al. in F2                    |
| <i>Chenopodium capitatum</i> (L.) Asch.                               | Amara           | a   | neo | cas | 3  | 1809    | r     | del  | AmN    |                 |     |     |      | Dostálek et al. in F2                    |
| <i>Chenopodium foliosum</i> Asch.                                     | Amara           | a b | ar  | cas | 3  |         | r     | del  | E M As |                 |     |     |      | Dostálek et al. in F2                    |
| <i>Chenopodium hircinum</i> Schrad.                                   | Amara           | a   | neo | cas | 1  | 1957    | r     | acc  | AmS    |                 |     |     |      | Dostálek et al. in F2                    |
| <i>Chenopodium karoi</i> (Murr) Aellen                                | Amara           | a   | neo | cas | 1  |         | v     | acc  | As     |                 |     |     |      | Dostálek et al. in F2                    |
| <i>Chenopodium missouriense</i> Aellen                                | Amara           | a   | neo | cas | 1  | 1963    | r     | acc  | AmN    |                 | 3   |     |      | Hejny et al. 1973, Dostálek et al. in F2 |



| Taxon  | Fam   | LH     | Res | Inv | PG | Ist  | Abund | Path | Origin  | Cover             | Hab | IEc | IEi | Source  |
|--|-------|--------|-----|-----|----|------|-------|------|---------|-------------------|-----|-----|-----|---|
| <i>Chenopodium murale</i> L.   | Amara | a      | ar  | nat | 6  |      | sc    | acc  | M       |                   |     |     |     | Dostálek et al. in F2                                   |
| <i>Chenopodium nitraticeum</i> (F. Muell.) Benth.                      | Amara | a (s)  | neo | cas | 1  | 1963 | v     | acc  | Au      |                   |     |     |     | Dostálek et al. in F2                                   |
| <i>Chenopodium prostratum</i> Aellen                                   | Amara | a      | neo | cas | 1  |      | r     | acc  | AmN     |                   | 2   |     |     | Dostálek et al. in F2                                   |
| <i>Chenopodium quinosa</i> Willd.                                      | Amara | a      | neo | cas | 4  | 1966 | v     | del  | AmS     |                   |     |     |     | Dostálek et al. in F2                                   |
| <i>Chenopodium strictiforme</i> J. Murr                                | Amara | a      | neo | nat | 8  |      | r     | acc  | E M     | 10 <sup>63</sup>  | 4   |     |     | Dostálek et al. in F2                                   |
| <i>Chenopodium strictum</i> Roth                                       | Amara | a      | neo | nat | 13 |      | sc    | acc  | M       | 10 <sup>63</sup>  | 5   |     |     | Dostálek 1983, Dostálek et al. in F2                    |
| <i>Chenopodium urticum</i> L.  | Amara | a      | ar  | nat | 6  |      | sc    | acc  | E M As  |                   | 1   |     |     | Dostálek et al. in F2                                   |
| <i>Chenopodium vulvaria</i> L.   | Amara | a      | ar  | nat | 6  |      | sc    | acc  | E M As  |                   | 4   |     |     | Dostálek 1983, Dostálek et al. in F2                    |
| <i>Chloris radiata</i> (L.) Sw.  | Poac  | a      | neo | cas | 1  | 1961 | s+v   | acc  | AmC AmS |                   |     |     |     | Dvořák & Kühn 1966, Dostál 1989, Kubát et al. 2002      |
| <i>Chloris truncata</i> R. Br.   | Poac  | a      | neo | cas | 1  | 1956 | v     | acc  | As Au   |                   |     |     |     | Dvořák & Kühn 1966, Dostál 1989, Kubát et al. 2002      |
| <i>Chloris virgata</i> Sw.   | Poac  | a      | neo | cas | 1  | 1961 | s+v   | acc  | AmC AmS |                   |     |     |     | Dvořák & Kühn 1966, Dostál 1989, Kubát et al. 2002      |
| <i>Chorispora tenella</i> (Pall.) DC.                                  | Bras  | a      | neo | cas | 1  | 1960 | r     | acc  | E As    |                   |     |     |     | Tomšovic in F3  |
| <i>Chrysanthemum xnorifolium</i> Hemsf.                                | Aster | a (pe) | neo | cas | 4  |      | r     | del  | ane     |                   |     |     |     | Pyšek et al. 2002, Zelený in F7                         |
| <i>Cicer arietinum</i> L.  | Faba  | a      | neo | cas | 4  |      | r     | del  | M       |                   |     |     |     | Chrková in F4   |
| <i>Cicerbita macrophylla</i> subsp. <i>uralensis</i> (Rouy) P. D. Sell | Aster | pe     | neo | nat | 11 |      | r     | del  | E       |                   |     |     |     | Kovanda in F7   |
| <i>Cichorium endivia</i> L.  | Aster | a b    | neo | cas | 4  | 1968 | r     | del  | M       |                   |     |     |     | Dvořáková in F7, Grulich in A9                          |
| <i>Cichorium intybus</i> L.  | Aster | pe     | ar  | nat | 13 |      | c     | acc  | M       | 2 <sup>49</sup>   | 13  |     |     | Dvořáková in F7   |
| <i>Cirsium arvense</i> (L.) Scop.                                      | Aster | pe     | ar  | inv | 14 |      | c     | acc  | E As    | 3 <sup>3084</sup> | 44  |     |     | Bureš in F7   |
| <i>Cirsium xaschersonii</i> Čelak.                                     | Aster | pe     | neo | cas | 1  |      | s+v   | acc  | hybrid  |                   |     |     |     | Bureš in F7   |
| <i>Cirsium xcelakovskyanum</i> Knafl                                   | Aster | pe     | ar  | cas | 1  |      | r     | acc  | hybrid  |                   |     |     |     | Bureš in F7   |
| <i>Cirsium echinus</i> (M. Bieb.) Hand.-Mazz.                          | Aster | b      | neo | cas | 1  | 1937 | v     | acc  | M       |                   |     |     |     | Bureš in F7   |
| <i>Cirsium xmoravicum</i> Petr.  | Aster | pe     | ar  | cas | 1  |      | s     | acc  | hybrid  |                   |     |     |     | Bureš in F7   |
| <i>Cirsium xpolivkae</i> Podp.   | Aster | pe     | ar  | cas | 1  |      | r     | acc  | hybrid  |                   |     |     |     | Bureš in F7   |
| <i>Cirsium xseville</i> Petern.  | Aster | pe     | ar  | cas | 1  |      | r     | acc  | hybrid  |                   |     |     |     | Bureš in F7   |
| <i>Cirsium xsextenum</i> Huter   | Aster | pe     | ar  | cas | 1  |      | r     | acc  | hybrid  |                   |     |     |     | Bureš in F7   |
| <i>Cirsium tuberosum</i> (L.) All.                                     | Aster | pe     | neo | cas | 1  | 1869 | s+v   | acc  | E       |                   |     |     |     | Bureš in F7   |
| <i>Citrullus lanatus</i> (Thunb.) Matsum. et Nakai                     | Cucu  | a      | ar  | cas | 5  |      | r     | del  | Af As   |                   | 1   |     |     | Chrková in F2   |
| <i>Clarkia pulchella</i> Pursh   | Onag  | a      | neo | cas | 4  |      | r     | del  | AmN     |                   |     |     |     | Smejkal in F5   |
| <i>Clarkia unguiculata</i> Lindl.                                      | Onag  | a      | neo | cas | 4  |      | r     | del  | AmN     |                   |     |     |     | Smejkal in F5   |
| <i>Claytonia perfoliata</i> Willd.                                     | Mont  | a pe   | neo | cas | 3  |      | r     | del  | AmN AmC |                   |     |     |     | Skalický & Sutory in F2                                 |
| <i>Claytonia sibirica</i> L.   | Mont  | a      | neo | nat | 9  | 1951 | r     | del  | AmN     |                   |     |     |     | Holub 1975, Skalický & Sutory in F2, Paulič in A6       |
| <i>Clematis flammula</i> L.  | Ranu  | s      | neo | cas | 4  | 1953 | r     | del  | M       |                   |     |     |     | Křisa in F1   |
| <i>Clematis tangutica</i> (Maxim.) Korsh.                              | Ranu  | s      | neo | cas | 4  |      | r     | del  | As      |                   |     |     |     | Pilát 1953, Procházka 1998, Hrouda in Kubát et al. 2002 |
| <i>Clematis viticella</i> L.   | Ranu  | s      | neo | cas | 4  |      | r     | del  | M       |                   |     |     |     | Křisa in F1   |
| <i>Clinopodium grandiflorum</i> (L.) Kuntze                            | Lami  | pe     | neo | cas | 4  | 1945 | s     | del  | E M     |                   |     |     |     | Štěpánková in F6  |
| <i>Clinopodium mentifolium</i> (Host) Stace                            | Lami  | pe     | neo | cas | 1  | 1989 | s+v   | acc  | E M     |                   |     |     |     | Štěpánková in F6  |
| <i>Clinopodium nepeta</i> (L.) Kuntze subsp. <i>nepeta</i>             | Lami  | pe     | neo | cas | 4  | 1996 | s     | del  | E M     |                   |     |     |     | Štěpánková in F6  |

| Taxon  | Fam            | LH     | Res | Inv | PG | Ist   | Abund | Path | Origin | Cover             | Hab | IEc | IEen | Source   |
|--|----------------|--------|-----|-----|----|-------|-------|------|--------|-------------------|-----|-----|------|--|
| <i>Cinopodium nepeta</i> subsp. <i>glaudatosum</i> (Req.)<br>Govaerts      | Lami           | pe     | neo | cas | 4  | 1948  | s     | del  | E M    |                   |     |     |      | Štěpánková in F6                                       |
| <i>Cnidium silafolium</i> (Jacq.) Simonk.                                  | Apiaceae       | pe     | neo | cas | 2  | 1868  | v     | acc  | E M    |                   |     |     |      | Gruulich in F3   |
| <i>Cochlearia officinalis</i> L.   | Brassicaceae   | b pe   | neo | cas | 4  | 1819  | r     | del  | E      |                   |     |     |      | Smejkal in F3  |
| <i>Coleostephus myconis</i> (L.) Rech. f.                                  | Asteraceae     | a      | neo | cas | 4  |       | s+v   | del  | M      |                   |     |     |      | Zelený in F7   |
| <i>Collomia grandiflora</i> Lindl.   | Poleaceae      | a      | neo | nat | 9  | 1880  | r     | del  | A m N  |                   |     |     |      | Křísa in F6  |
| <i>Collumia arborescens</i> L.   | Fabaceae       | s      | neo | nat | 12 | 1819  | r     | del  | E M    |                   | 5   |     |      | Chrtková in F4   |
| <i>Commelina communis</i> L.   | Commelinaceae  | a      | neo | cas | 4  | 1940  | sc    | del  | As     |                   | 2   |     |      | Hejny et al. 1973, Jehlík 1998a, Kubát et al. 2002     |
| <i>Contium maculatum</i> L.  | Apiaceae       | a b    | ar  | inv | 14 |       | sc    | acc  | M As   | 19 <sup>80</sup>  | 8   |     |      | Křísa in F5  |
| <i>Conringia orientalis</i> (L.) C. Presl                                  | Brassicaceae   | a      | ar  | nat | 6  |       | r     | acc  | M      | 4 <sup>39</sup>   | 6   |     |      | Smejkal in F3  |
| <i>Consolida ajacis</i> (L.) Schur   | Ranunculaceae  | a      | neo | cas | 4  | 1880  | sc    | del  | M      |                   | 3   |     |      | Chrtková in F1   |
| <i>Consolida hispanica</i> (Costa) Greuter et Burdet                       | Ranunculaceae  | a      | neo | nat | 8  | 1913  | r     | acc  | E M As |                   | 3   |     |      | Chrtková in F1, Jehlík 1998a                           |
| <i>Consolida regalis</i> Gray subsp. <i>regalis</i>                        | Ranunculaceae  | a      | ar  | nat | 13 |       | sc    | acc  | M      | 5 <sup>430</sup>  | 7   |     |      | Chrtková in F1   |
| <i>Convallaria majalis</i> var. <i>transcaucasica</i> (Grossh.)<br>Knöring | Asp.aceae      | pe     | neo | cas | 4  | 1970s | s     | del  | E      |                   |     |     |      | Čížek & Král 2009, Slavík & Zázvorka in Slavíková 2010 |
| <i>Convolvulus arvensis</i> L.   | Convolvulaceae | pe     | ar  | nat | 13 |       | c     | acc  | M      | 3 <sup>2021</sup> | 37  |     |      | Křísa in F6  |
| <i>Convolvulus tricolor</i> L.   | Convolvulaceae | a (pe) | neo | cas | 4  |       | r     | del  | M      |                   |     |     |      | Křísa in F6  |
| <i>Comyza bonariensis</i> (L.) Cronquist                                   | Asteraceae     | a      | neo | cas | 1  | 1964  | s     | acc  | A m S  |                   |     |     | yes  | Šída 2003, Šída in F7                                  |
| <i>Comyza canadensis</i> (L.) Cronquist                                    | Asteraceae     | a      | neo | inv | 14 | 1750  | c     | acc  | A m N  | 2 <sup>754</sup>  | 34  |     | yes  | Šída in F7   |
| <i>Comyza triloba</i> Decne.   | Asteraceae     | a      | neo | cas | 1  | 1971  | s+v   | acc  | Af As  |                   |     |     | yes  | Šída 2003, Šída in F7                                  |
| <i>Coreopsis lanceolata</i> L.   | Asteraceae     | pe     | neo | cas | 4  | 1962  | s+v   | del  | A m N  |                   |     |     | yes  | Bělohávková in F7                                      |
| <i>Coreopsis tinctoria</i> Nutt.   | Asteraceae     | a      | neo | cas | 4  | 1883  | r     | del  | A m N  |                   |     |     |      | Bělohávková in F7                                      |
| <i>Coriandrum sativum</i> L.   | Apiaceae       | a      | ar  | cas | 4  |       | r     | del  | M      |                   | 2   |     |      | Tomšovic in F5   |
| <i>Corispermum declinatum</i> Steven                                       | Amaraeaceae    | a      | neo | cas | 1  | 1960  | s+v   | acc  | As     |                   |     |     |      | this study   |
| <i>Corispermum pallasi</i> Steven  | Amaraeaceae    | a      | neo | nat | 8  | 1933  | la    | acc  | E      |                   |     |     | yes  | Tomšovic in F2, this study                             |
| <i>Cornus sericea</i> L.   | Cornaceae      | s      | neo | nat | 12 | 1900  | r     | del  | A m N  |                   |     |     | yes  | Holub in F5  |
| <i>Coronilla scorpioides</i> (L.) W. D. J. Koch                            | Fabaceae       | a      | neo | cas | 1  | 2001  | v     | acc  | M      |                   |     |     |      | Chrtková in F4   |
| <i>Corylus colurna</i> L.  | Betulaceae     | t      | neo | cas | 4  | 1902  | r     | del  | M      |                   |     |     |      | Pyšek et al. 2002                                      |
| <i>Corylus maxima</i> Mill.  | Betulaceae     | s      | neo | cas | 4  | 1902  | r     | del  | M      |                   |     |     |      | Kovanda in F2  |
| <i>Cosmos bipinnatus</i> Cav.  | Asteraceae     | a      | neo | cas | 4  |       | r     | del  | A m N  |                   |     |     |      | Slavíková in F7  |
| <i>Cota austriaca</i> (Jacq.) Sch. Bip.                                    | Asteraceae     | a      | ar  | nat | 6  |       | sc    | acc  | M      | 8 <sup>107</sup>  | 4   |     |      | Dvořáková in F7  |
| <i>Cotinus coggygria</i> Scop.   | Anacardiaceae  | s      | neo | cas | 4  | 1884  | r     | del  | E M    |                   |     |     |      | Skalická in F5   |
| <i>Cononeaster bullianus</i> Bois  | Rosaceae       | s      | neo | cas | 4  |       | s     | del  | As     |                   |     |     |      | Pyšek et al. 2002                                      |
| <i>Cononeaster dielsianus</i> Diels  | Rosaceae       | s      | neo | cas | 4  | 2011  | s     | del  | As     |                   |     |     |      | this study   |
| <i>Cononeaster dharvaticus</i> Rehder et E. H. Wilson                      | Rosaceae       | s      | neo | cas | 4  | 2012  | r     | del  | As     |                   | 6   |     |      | Pyšek et al. 2002, Jorža 2009                          |
| <i>Cononeaster horzontalis</i> Decne.                                      | Rosaceae       | s      | neo | cas | 4  | 1986  | r     | del  | As     |                   |     |     |      | Pyšek et al. 2002                                      |
| <i>Cononeaster lucidus</i> Schldl.   | Rosaceae       | s      | neo | cas | 4  |       | s     | del  | As     |                   |     |     |      | this study   |
| <i>Cononeaster zabelii</i> C. K. Schmeid.                                  | Rosaceae       | s      | neo | cas | 4  | 2005  | s     | del  | As     |                   |     |     |      | Pyšek et al. 2002                                      |
| <i>Conula australis</i> (Spreng.) Hook. f.                                 | Asteraceae     | a      | neo | cas | 1  | 1958  | s+v   | acc  | Au     |                   |     |     |      | Čáp in A6  |
| <i>Crambe abyssinica</i> R. E. Fr.   | Brassicaceae   | a      | neo | cas | 4  | 1965  | v     | del  | Af As  |                   |     |     |      | Dvořák & Kühn 1966, Bělohávková in F7                  |
| <i>Crambe maritima</i> L.  | Brassicaceae   | pe     | neo | nat | 7  |       | r     | acc  | E      |                   |     |     |      | Smejkal 1989a, Smejkal in F3                           |

| Taxon  | Fam   | LH     | Res | Inv | PG | Ist   | Abund | Path | Origin      | Cover            | Hab | IEc | IEi | Source                                      |
|--|-------|--------|-----|-----|----|-------|-------|------|-------------|------------------|-----|-----|-----|---|
| <i>Crataegus coccinea</i> L.   | Rosa  | t s    | neo | cas | 4  |       | sc    | del  | AmN         |                  |     |     |     | Holub in F3                                 |
| <i>Crataegus crus-galli</i> L.                                       | Rosa  | t s    | neo | cas | 4  | 1900  | s+v   | del  | AmN         |                  |     |     |     | Holub in F3                                 |
| <i>Crataegus flabellata</i> (Spach) K. Koch                          | Rosa  | s t    | neo | cas | 4  | 1993  | r     | del  | AmN         |                  |     |     |     | Pyšek et al. 2002                           |
| <i>Crataegus mollis</i> (Torr. et A. Gray) Scheele                   | Rosa  | t s    | neo | cas | 4  |       | r     | del  | AmN         |                  |     |     |     | Holub in F3                                 |
| <i>Crataegus persimilis</i> Sarg.                                    | Rosa  | s t    | neo | cas | 4  |       | s     | del  | AmN         |                  |     |     |     | Pyšek et al. 2002                           |
| <i>Crepis capillaris</i> (L.) Wallr.                                 | Aster | a pe   | ar  | nat | 7  |       | la    | acc  | E           | 1 <sup>32</sup>  | 9   |     |     | Kaplan & Kirschner in F7                    |
| <i>Crepis foetida</i> L. subsp. <i>foetida</i>                       | Aster | b a    | neo | cas | 4  | 1872  | v     | acc  | E M         |                  |     |     |     | Kaplan & Kirschner in F7                    |
| <i>Crepis foetida</i> subsp. <i>rhoeadifolia</i> (M. Bieb.) Čelak.   | Aster | b a    | ar  | nat | 7  |       | la    | acc  | E M         |                  | 4   |     |     | Kaplan & Kirschner in F7                    |
| <i>Crepis nicaensis</i> Balb.  | Aster | a pe   | neo | cas | 1  | 1872  | r     | acc  | M           |                  |     | yes |     | Kaplan & Kirschner in F7                    |
| <i>Crepis setosa</i> Haller f.                                       | Aster | a      | ar  | nat | 7  |       | r     | acc  | E           |                  | 4   |     |     | Kaplan & Kirschner in F7                    |
| <i>Crepis tectorum</i> L. subsp. <i>rectorum</i>                     | Aster | a pe   | ar  | nat | 6  |       | r     | acc  | M           |                  | 6   |     |     | Kaplan & Kirschner in F7                    |
| <i>Crepis vesicaria</i> subsp. <i>taraxacifolia</i> (Thuill.) Thell. | Aster | b      | neo | cas | 1  | 1900  | s+v   | acc  | M           |                  |     |     |     | Kaplan & Kirschner in F7                    |
| <i>Crococinia xrocossiflora</i> (Lemoine) N. E. Br.                  | Irid  | pe     | neo | cas | 4  | 1925  | r     | del  | anec        |                  |     |     |     | Chrtěk in F8                                |
| <i>Crocus chrysanthus</i> (Herb.) Herb.                              | Irid  | pe     | neo | cas | 4  | 1910s | v     | del  | anec        |                  |     |     |     | Chrtěk in F8                                |
| <i>Crocus flavus</i> Weston  | Irid  | pe     | neo | cas | 4  | 1910s | s+v   | del  | anec        |                  |     |     |     | Chrtěk in F8                                |
| <i>Crocus tommasinianus</i> Herb.                                    | Irid  | pe     | neo | cas | 4  | 1910s | s+v   | del  | E           |                  |     |     |     | Chrtěk in F8                                |
| <i>Crocus vernus</i> (L.) Hill                                       | Irid  | pe     | neo | cas | 4  |       | r     | del  | M           |                  |     |     |     | Pyšek et al. 2002, Chrtěk in F8             |
| <i>Cucumis melo</i> L.   | Cucu  | a      | ar  | cas | 4  |       | r     | del  | Af As       |                  | 2   |     |     | Chrtěk in F8                                |
| <i>Cucumis sativus</i> L.  | Cucu  | a      | ar  | cas | 4  |       | r     | del  | As          |                  | 2   |     |     | Chrtěk in F2                                |
| <i>Cucumis maxima</i> Duchesne                                       | Cucu  | a      | neo | cas | 4  |       | r     | del  | AmS         |                  | 1   |     |     | Chrtěk in F2                                |
| <i>Cucurbita pepo</i> L.   | Cucu  | a      | neo | cas | 4  | 1969  | r     | del  | AmN & C & S |                  | 1   |     |     | Chrtěk in F2                                |
| <i>Cuscuta campestris</i> Yunck.                                     | Conv  | a      | neo | inv | 14 | 1883  | sc    | acc  | AmN         |                  | 4   |     |     | Jehlík 1998a, Chrtěk in F6                  |
| <i>Cuscuta epilinum</i> Weibe  | Conv  | a      | ar  | cas | 2  |       | v     | acc  | anec        |                  |     |     |     | Chrtěk in F6                                |
| <i>Cydonia oblonga</i> Mill.   | Rosa  | t s    | ar  | cas | 4  |       | r     | del  | M           |                  |     |     |     | Kovanda in F3                               |
| <i>Cymbalaria muralis</i> G. Gaertn. et al. subsp. <i>muralis</i>    | Plant | pe     | ar  | nat | 15 |       | sc    | del  | M           | 17 <sup>37</sup> | 5   |     |     | Slavík in F6                                |
| <i>Cymbalaria pallida</i> (Ten.) Wettst.                             | Plant | pe     | neo | nat | 11 |       | r     | del  | M           |                  | 3   |     |     | Slavík in F6, Lámková in A9                 |
| <i>Cynodon dactylon</i> (L.) Pers.                                   | Poac  | pe     | ar  | nat | 13 |       | sc    | acc  | Af As       | 19 <sup>65</sup> | 10  |     |     | Kubát et al. 2002                           |
| <i>Cynosurus echinatus</i> L.  | Poac  | a      | neo | cas | 1  |       | r     | acc  | M           |                  |     |     |     | Kubát et al. 2002                           |
| <i>Cyperus eragrostis</i> Lam.                                       | Cype  | pe     | neo | cas | 1  | 1999  | s     | acc  | AmN & C & S |                  |     | yes |     | Kubát et al. 2002, Peřík 2003               |
| <i>Cyperus glomeratus</i> L.   | Cype  | pe     | neo | cas | 4  | 1895  | s+v   | del  | E As        |                  |     |     |     | Kubát et al. 2002, Kubát in Stěpánková 2012 |
| <i>Cyperus rotundus</i> L.   | Cype  | pe     | neo | cas | 1  |       | v     | acc  | M           |                  |     |     |     | Dostál 1989, Kubát et al. 2002              |
| <i>Cyrtopodium reginae</i> Walter                                    | Orch  | pe     | neo | cas | 4  | 1935  | v     | del  | AmN         |                  |     |     |     | Dostál et al. 1948–1950, Šuk 2001           |
| <i>Cystopteris bulbifera</i> (L.) Benth.                             | Wood  | pe f   | neo | cas | 4  |       | s     | del  | AmN         |                  |     |     |     | Marek et al. in A1                          |
| <i>Cytisus scoparius</i> (L.) Link subsp. <i>scoparius</i>           | Faba  | s      | neo | nat | 12 | 1819  | sc    | del  | E           |                  | 17  |     |     | Skalická in F4                              |
| <i>Dactyloctenium aegyptium</i> (L.) Willd.                          | Poac  | a      | neo | cas | 1  |       | r     | acc  | Af As       |                  |     |     |     | Kubát et al. 2002                           |
| <i>Dahlia pinnata</i> Cav.   | Aster | a (pe) | neo | cas | 4  |       | r     | del  | AmN         |                  |     |     |     | Bělohávková in F7                           |
| <i>Darmaria peltata</i> (Benth.) Voss                                | Saxi  | (pe)   | neo | cas | 4  | 1960  | r     | del  | AmN         |                  |     |     |     | Kral et al. 2004c                           |
| <i>Dasiphora fruticosa</i> (L.) Rydb.                                | Rosa  | s      | neo | cas | 4  | 1977  | s     | del  | E As        |                  |     |     |     | Pyšek et al. 2002                           |
| <i>Dasypyrum villosum</i> (L.) P. Candargy                           | Poac  | a      | neo | cas | 1  |       | r     | acc  | M           |                  |     |     |     | Kubát et al. 2002                           |
| <i>Datura ferax</i> L.   | Sola  | a      | neo | cas | 1  | 1987  | v     | acc  | As          |                  |     |     |     | Štěpánek in F6                              |
| <i>Datura innoxia</i> Mill.  | Sola  | a      | neo | cas | 4  | 1934  | s+v   | del  | AmN & C & S |                  |     |     |     | Štěpánek in F6                              |

| Taxon   | Fam   | LH   | Res | Inv | PG | Ist  | Abund | Path | Origin  | Cover            | Hab | IEc | IEi | Source  |
|---|-------|------|-----|-----|----|------|-------|------|---------|------------------|-----|-----|-----|---|
| <i>Datura stramonium</i> L. var. <i>stramonium</i>                        | Sola  | a    | neo | nat | 13 | 1809 | sc    | acc  | AmN     |                  | 3   |     |     | Štěpánek in F6  |
| <i>Datura stramonium</i> var. <i>ratata</i> (L.) Torr.                    | Sola  | a    | neo | cas | 4  | 1935 | r     | del  | AmN     |                  |     |     |     | Štěpánek in F6  |
| <i>Daucus carota</i> subsp. <i>sativus</i> (Hoffm.) Schübl. et G. Martens | Api   | b    | ar  | cas | 4  |      | r     | del  | anec    |                  |     |     |     | Tomšovic in F5  |
| <i>Descurainia sophia</i> (L.) Prantl                                     | Bras  | a    | ar  | nat | 13 |      | c     | acc  | M As    | 3 <sup>694</sup> | 18  |     |     | Dvořák in F3  |
| <i>Hydra</i>  | Hydra | s    | neo | cas | 4  | 2001 | s     | del  | As      |                  |     |     |     | Pyšek et al. 2002   |
| <i>Dianthus barbatus</i> L. subsp. <i>barbatus</i>                        | Cary  | pe   | neo | nat | 11 | 1874 | r     | del  | E       |                  |     |     |     | Kovanda in F2   |
| <i>Dianthus caryophyllus</i> L.   | Cary  | pe   | neo | cas | 4  |      | r     | del  | M       |                  |     |     |     | Kovanda in F2   |
| <i>Dianthus chinensis</i> L.  | Cary  | a b  | neo | cas | 4  |      | r     | del  | As      |                  |     |     |     | Kovanda in F2   |
| <i>Dichanthium oligosanthus</i> (Schult.) Gould                           | Poac  | pe   | neo | cas | 1  |      | r     | del  | AmC AmS |                  |     |     |     | Dvořák et al. 2002  |
| <i>Dichanthium sericeum</i> (R. Br.) A. Camus                             | Poac  | pe   | neo | cas | 1  | 1961 | s+v   | acc  | Au      |                  |     |     |     | Dvořák & Kühn 1966, Kubát et al. 2002   |
| <i>Diervilla lonicera</i> Mill.   | Dier  | s    | neo | cas | 4  |      | r     | del  | AmN     |                  |     |     |     | Chřek in F5   |
| <i>Digitalis lanata</i> Ehrh.   | Plant | b    | neo | cas | 4  | 1881 | r     | del  | E       |                  |     |     |     | Kubát in F6   |
| <i>Digitalis lutea</i> L.   | Plant | pe   | neo | cas | 4  | 1872 | r     | del  | E       |                  |     |     |     | Kubát in F6   |
| <i>Digitaria ciliaris</i> (Retz.) Koeler                                  | Plant | b pe | neo | nat | 17 | 1790 | la    | del  | E M     | 10 <sup>88</sup> | 8   |     |     | Kubát in F6   |
| <i>Digitaria ischaemum</i> (Schreb.) Muhl.                                | Poac  | a    | neo | cas | 1  | 1908 | s     | acc  | Af As   |                  |     |     |     | Wilhelm 2009, Damihelka in A9   |
| <i>Digitaria sanguinalis</i> (L.) Scop. var. <i>sanguinalis</i>           | Poac  | a    | ar  | inv | 14 |      | sc    | acc  | M       | 10 <sup>73</sup> | 10  |     |     | Kubát et al. 2002   |
| <i>Digitaria sanguinalis</i> var. <i>pectiniformis</i> (Hemrad) Tuyenam   | Poac  | a    | ar  | nat | 15 |      | c     | del  | M       | 15 <sup>78</sup> | 10  |     |     | Kubát et al. 2002   |
| <i>Dinebra retroflexa</i> (Vahl) Panz.                                    | Poac  | a    | neo | cas | 1  | 1972 | r     | acc  | Af As   |                  |     |     |     | Dvořák & Frank 1975, Kubát et al. 2002  |
| <i>Diploaxis muralis</i> (L.) DC.   | Bras  | a b  | ar  | nat | 6  |      | sc    | acc  | M       | 3 <sup>25</sup>  | 8   | yes | yes | Smejkal in F3   |
| <i>Diploaxis tenuifolia</i> (L.) DC.                                      | Bras  | pe   | ar  | nat | 6  |      | sc    | acc  | M       |                  | 4   | yes |     | Smejkal in F3   |
| <i>Dipsacus sativus</i> (L.) Honck.                                       | Dips  | b    | ar  | cas | 4  |      | r     | del  | anec    |                  |     |     |     | Štěpánek & Holub in F5  |
| <i>Dipsacus strigosus</i> Roem. et Schult.                                | Dips  | b    | neo | nat | 10 | 1864 | la    | del  | E M     |                  | 7   |     |     | Lhotská 1968b, Štěpánek & Holub in F5   |
| <i>Ditrichia graveolens</i> (L.) Greuter                                  | Aster | a    | neo | nat | 8  | 2008 | la    | acc  | M       |                  |     |     |     | Raabe in A8   |
| <i>Doronium columnae</i> Ten.   | Aster | pe   | neo | nat | 11 |      | r     | del  | E       |                  |     |     |     | Pyšek et al. 2002, Štech in F7  |
| <i>Doronium orientale</i> Hoffm.  | Aster | pe   | neo | cas | 4  | 1819 | r     | del  | E M     |                  |     |     |     | Čelakovský 1885, Pyšek et al. 2002, Štech in F7                                     |
| <i>Doronium pardalianches</i> L.  | Aster | pe   | neo | cas | 4  | 1897 | s     | del  | E       |                  |     |     |     | Štech in F7   |
| <i>Draba sibirica</i> (Pall.) Thell.                                      | Bras  | pe   | neo | cas | 4  | 1963 | r     | del  | As      |                  |     |     |     | Chřek in F3   |
| <i>Dracocephalum moldavica</i> L.   | Lami  | a    | neo | cas | 3  | 1854 | v     | del  | As      |                  |     |     |     | Hrouda in F6  |
| <i>Dracocephalum thymiflorum</i> L.                                       | Lami  | a    | neo | cas | 1  | 1958 | v     | acc  | E As    |                  |     |     |     | Hejny et al. 1973, Hrouda in F6   |
| <i>Duchesnea indica</i> (Jack.) Focke                                     | Rosa  | pe   | neo | nat | 10 | 1960 | r     | del  | As      |                  | 4   | yes |     | Smejkal 1975b, Křísa in F4  |
| <i>Dysphania ambrosioides</i> (L.) Mosyakin et Clemants                   | Amara | a b  | neo | cas | 4  | 1835 | r     | del  | AmS     |                  | 3   |     | yes | Dostálek et al. in F2   |
| <i>Dysphania botrys</i> (L.) Mosyakin et Clemants                         | Amara | a    | ar  | nat | 7  |      | sc    | acc  | M As    |                  | 3   |     |     | Dostálek et al. in F2   |
| <i>Dysphania melanocarpa</i> (J. M. Black) Mosyakin et Clemants           | Amara | a    | neo | cas | 1  |      | v     | acc  | Au      |                  |     |     |     | Dostálek et al. in F2   |
| <i>Dysphania pumilio</i> (R. Br.) Mosyakin et Clemants                    | Amara | a    | neo | nat | 8  | 1890 | sc    | acc  | Au      |                  | 3   |     |     | Hejny & Schwarzková 1978, Lhotská & Hejny 1979, Dostálek et al. in F2, Jehlík 1998a |
| <i>Dysphania schraderiana</i> (Schult.) Mosyakin et Clemants              | Amara | a    | neo | cas | 4  | 1864 | r     | del  | Af      |                  |     |     |     | Dostálek et al. in F2   |
| <i>Ecballium elaterium</i> (L.) A. Rich.                                  | Cucu  | a    | neo | cas | 4  | 1880 | r     | del  | M       |                  |     |     |     | Chřtková in F2  |

| Taxon  | Fam   | LH     | Res | Inv | PG | Ist  | Abund | Path | Origin  | Cover             | Hab | IEc | IEi | Source   |
|--|-------|--------|-----|-----|----|------|-------|------|---------|-------------------|-----|-----|-----|--|
| <i>Echinochloa colona</i> (L.) Link                              | Poac  | a      | neo | cas | 1  |      | v     | acc  | M       |                   |     | yes |     | Dostál 1989, Kubát et al. 2002                                   |
| <i>Echinochloa crus-galli</i> (L.) P. Beauv.                     | Poac  | a      | ar  | inv | 14 |      | c     | acc  | anec    | 4 <sup>833</sup>  | 19  |     |     | Dostál 1989, Kubát et al. 2002                                   |
| <i>Echinochloa frumentacea</i> Link                              | Poac  | a      | neo | cas | 1  |      | v     | acc  | As      |                   |     |     |     | Dostál 1989, Kubát et al. 2002                                   |
| <i>Echinochloa muricoides</i> (P. Beauv.) Fernald                | Poac  | a      | neo | cas | 1  |      | r     | acc  | AmN     |                   |     |     |     | Kubát et al. 2002  |
| <i>Echinochloa oryzoides</i> (Ard.) Fritsch                      | Poac  | a      | neo | cas | 1  | 1950 | v     | acc  | M       |                   |     | yes |     | Hejny 1950-1951, Hejny et al. 1973, Kubát et al. 2002            |
| <i>Echinochloa utilis</i> (A. Braun) H. Scholz                   | Poac  | a      | neo | cas | 1  |      | r     | acc  | As      |                   |     |     |     | Kubát et al. 2002  |
| <i>Echinocystis lobata</i> (Michx.) Torr. et A. Gray             | Cucu  | a      | neo | inv | 18 | 1911 | la    | del  | AmN     | 14 <sup>33</sup>  | 7   | yes |     | Slavík & Lhotská 1967, Chrtková in F2, Rydlo 2000, Sutorý 2000   |
| <i>Echinops exaltatus</i> Schrad.                                | Aster | pe     | neo | nat | 12 |      | r     | del  | E       |                   | 5   |     |     | Slavík in F7   |
| <i>Echinops sphaerocephalus</i> L. subsp. <i>sphaerocephalus</i> | Aster | pe     | neo | inv | 16 | 1871 | c     | del  | E M     | 6 <sup>39</sup>   | 9   |     |     | Hendrych 1987, Slavík in F7                                      |
| <i>Echium plantagineum</i> L.                                    | Bora  | b      | neo | cas | 1  | 1960 | s+v   | acc  | M       |                   |     |     |     | Smejkal 1980, Křísa in F6  |
| <i>Egeria densa</i> Planch.                                      | Hydro | pe aq  | neo | cas | 4  | 1991 | r     | del  | AmS     |                   |     |     |     | Kaplan in F8   |
| <i>Ehrharta longiflora</i> Sm.                                   | Poac  | a      | neo | cas | 1  | 1963 | s+v   | acc  | Af      |                   |     |     |     | Dvořák & Kühn 1966   |
| <i>Eichhornia crassipes</i> (Mart.) Solms                        | Pont  | a (pe) | neo | cas | 4  | 1991 | r     | del  | AmS     |                   |     | yes |     | Rydlo 1992, 2001, Pyšek et al. 2002, Kaplan in A8                |
| <i>Elaeagnus angustifolia</i> L.                                 | Elae  | t      | neo | cas | 4  |      | r     | del  | E M As  |                   |     |     |     | Koblížek in F5   |
| <i>Elaeagnus commutata</i> Rydb.                                 | Elae  | s      | neo | nat | 11 | 1974 | r     | del  | AmN     |                   |     |     |     | P. Krása, V. Grulich pers. com.                                  |
| <i>Eleusine indica</i> (L.) Gaertn.                              | Poac  | a      | neo | cas | 1  | 1963 | r     | acc  | Af As   |                   |     |     |     | Dvořák & Kühn 1966, Jehlík 1998a, Kubát et al. 2002, Kubát in A7 |
| <i>Elodea canadensis</i> Michx.                                  | Hydro | pe aq  | neo | nat | 15 | 1879 | c     | del  | AmN     | 35 <sup>412</sup> | 8   | yes |     | Pyšek & Mandák 1998b, Husák et al. in F8                         |
| <i>Elodea nuttallii</i> (Planch.) H. St. John                    | Hydro | pe aq  | neo | cas | 4  | 1988 | r     | del  | AmN     |                   |     | yes |     | Husák et al. in F8   |
| <i>Eisholtzia ciliata</i> (Thunb.) Hyl.                          | Lami  | a      | ar  | cas | 4  |      | r     | del  | As      |                   | 5   | yes |     | Cejp 1948b, Slavíková in F6                                      |
| <i>Elymus canadensis</i> L.                                      | Poac  | pe     | neo | cas | 1  |      | v     | acc  | AmN     |                   |     |     |     | Kubát et al. 2002  |
| <i>Epilobium adenocaulon</i> Hausskn.                            | Onag  | pe     | neo | nat | 13 | 1926 | c     | acc  | AmN AmC | 1 <sup>684</sup>  | 45  | yes |     | Holub 1966, Smejkal 1986, Smejkal in F5                          |
| <i>Epilobium xfloridulum</i> Smejkal                             | Onag  | pe     | neo | cas | 1  | 1980 | r     | acc  | hybrid  |                   |     |     |     | Smejkal 1995, Smejkal in F5                                      |
| <i>Epilobium xfoxicola</i> Smejkal                               | Onag  | pe     | neo | cas | 1  |      | r     | acc  | hybrid  |                   |     |     |     | Smejkal 1995, Smejkal in F5                                      |
| <i>Epilobium xiglavense</i> Smejkal                              | Onag  | pe     | neo | cas | 1  | 1979 | s     | acc  | hybrid  |                   |     |     |     | Smejkal 1995, Smejkal in F5                                      |
| <i>Epilobium xinterjectum</i> Smejkal                            | Onag  | pe     | neo | cas | 1  | 1987 | r     | acc  | hybrid  |                   |     |     |     | Smejkal 1995, Smejkal in F5                                      |
| <i>Epilobium xjosefi-holubii</i> Krahulec                        | Onag  | pe     | neo | cas | 1  | 1997 | s     | acc  | hybrid  |                   |     |     |     | Smejkal 1995, Smejkal in F5                                      |
| <i>Epilobium komarovianum</i> H. Lév.                            | Onag  | pe     | neo | cas | 4  | 1964 | r     | del  | Au      |                   | 2   |     |     | Krahulec 1999  |
| <i>Epilobium xmeniens</i> Smejkal                                | Onag  | pe     | neo | cas | 1  | 1987 | r     | acc  | hybrid  |                   |     |     |     | Rehořek 1974, Holub 1978a, Smejkal in F5                         |
| <i>Epilobium xnovae-chivatis</i> Smejkal                         | Onag  | pe     | neo | cas | 1  | 1972 | r     | acc  | hybrid  |                   |     |     |     | Smejkal 1995, Smejkal in F5                                      |
| <i>Epilobium xnutriflorum</i> Smejkal                            | Onag  | pe     | neo | cas | 1  | 1976 | r     | acc  | hybrid  |                   |     |     |     | Smejkal 1974, Smejkal in F5                                      |
| <i>Epilobium xprochazkae</i> Krahulec                            | Onag  | pe     | neo | cas | 1  | 1997 | r     | acc  | hybrid  |                   |     |     |     | Smejkal 1995, Smejkal in F5                                      |
| <i>Epilobium xvicinum</i> Smejkal                                | Onag  | pe     | neo | cas | 1  | 1971 | r     | acc  | hybrid  |                   |     |     |     | Krahulec 1999  |
| <i>Epimedium alpinum</i> L.                                      | Berb  | pe     | neo | cas | 4  | 1874 | r     | del  | E       |                   |     |     |     | Smejkal 1995, Smejkal in F5                                      |
| <i>Eragrostis albensis</i> H. Scholz                             | Poac  | a      | neo | cas | 1  | 1968 | s     | acc  | anec    |                   | 3   |     |     | Zelený in F1   |
| <i>Eragrostis ciliatensis</i> (All.) Janch.                      | Poac  | a      | neo | cas | 1  |      | r     | acc  | M As    |                   |     |     |     | Kubát et al. 2002, Špryňar & Kubát 2004                          |
| <i>Eragrostis gracilis</i> Schrad.                               | Poac  | a      | neo | cas | 1  |      | v     | acc  | AmS     |                   |     |     |     | Dvořák & Kühn 1966, Dostál 1989, Kubát et al. 2002               |
| <i>Eragrostis mexicana</i> (Hornem.) Link                        | Poac  | a      | neo | cas | 1  | 1966 | r     | acc  | AmN     |                   |     |     |     | Dostál 1989, Kubát et al. 2002                                   |

| Taxon  | Fam   | LH | Res | Inv | PG  | Ist  | Abund | Path | Origin  | Cover            | Hab | IEc | IEen | Source   |
|--|-------|----|-----|-----|-----|------|-------|------|---------|------------------|-----|-----|------|--|
| <i>Eragrostis minor</i> Host   | Poac  | a  | ar  | inv | 14  | 1961 | sc    | acc  | M       | 12 <sup>81</sup> | 7   |     |      | Kubát et al. 2002                                  |
| <i>Eragrostis multicaulis</i> Steud.   | Poac  | a  | neo | cas | 1   |      | v     | acc  | As      |                  |     |     |      | Dvořák & Kühn 1966, Dostál 1989, Kubát et al. 2002 |
| <i>Eragrostis pectinacea</i> (Michx.) Nees   | Poac  | a  | neo | cas | 1   | 1968 | s     | acc  | AmN AmC |                  |     |     |      | Špryňar & Kubát 2004                               |
| <i>Eragrostis pilosa</i> (L.) P. Beauv.  | Poac  | a  | neo | nat | 8   | 1902 | r     | acc  | As      |                  |     |     |      | Spryňar & Kubát 2004                               |
| <i>Eragrostis stauveolens</i> Claus  | Poac  | a  | neo | cas | 1   | 1961 | s+v   | acc  | M       |                  |     |     |      | Dvořák & Kühn 1966                                 |
| <i>Eragrostis tef</i> (Zuccagni) Trotter   | Poac  | a  | neo | cas | 1   | 1965 | v     | acc  | M       |                  |     |     |      | Kubát 1979, Dostál 1989, Kubát et al. 2002         |
| <i>Eranthis hyemalis</i> (L.) Salisb.  | Ranu  | pe | neo | nat | 11  |      | r     | del  | M       |                  | 4   |     |      | Chrtková in F1                                     |
| <i>Erechtites hieracifolius</i> (L.) DC.   | Aster | pe | neo | nat | 8   | 1895 | sc    | acc  | AmN     |                  | 10  |     |      | Dvořáková in F7, Hadinec in A9                     |
| <i>Erigeron annuus</i> (L.) Desf. subsp. <i>annuus</i>                             | Aster | a  | neo | inv | 14  | 1884 | sc    | acc  | AmN     | 3 <sup>109</sup> | 13  |     |      | Jehlik 1998a, Šída in F7                           |
| <i>Erigeron annuus</i> subsp. <i>septentrionalis</i> (Fernald et Wiegand) Wagenitz | Aster | a  | neo | inv | 14  |      | c     | acc  | AmN     |                  |     |     |      | Šída in F7   |
| <i>Erigeron speciosus</i> (Lindl.) DC.   | Aster | pe | neo | cas | 4   | 1888 | s+v   | del  | AmN     |                  |     |     |      | Dostál 1989, Šída in F7                            |
| <i>Erigeron strigosus</i> Willd.   | Aster | a  | pe  | neo | nat | 8    | r     | acc  | AmN     |                  | 2   |     |      | Šída in F7   |
| <i>Eriochloa punctata</i> (L.) Ham.  | Poac  | a  | neo | cas | 1   | 1960 | s+v   | acc  | AmC AmS |                  |     |     |      | Dvořák & Kühn 1966                                 |
| <i>Erodium botrys</i> (Cav.) Bertol.   | Gera  | a  | neo | cas | 1   | 1956 | v     | acc  | M       |                  |     |     |      | Slavík 1996a, Slavík in F5                         |
| <i>Erodium cicutarium</i> (L.) L'Hér.  | Gera  | a  | ar  | nat | 13  |      | c     | acc  | E M As  | 3 <sup>430</sup> | 16  |     |      | Slavík in F5                                       |
| <i>Erodium gruinum</i> (L.) L'Hér.   | Gera  | a  | neo | cas | 1   | 1897 | v     | acc  | M       |                  |     |     |      | Slavík in F5                                       |
| <i>Erodium moschatum</i> (L.) L'Hér.   | Gera  | a  | neo | cas | 1   | 1855 | r     | acc  | M       |                  |     |     |      | Slavík in F5                                       |
| <i>Erodium neutradiifolium</i> Godr.   | Gera  | a  | neo | cas | 1   | 1986 | v     | acc  | M       |                  |     |     |      | Slavík in F5                                       |
| <i>ErUCA sativa</i> Mill.  | Bras  | a  | neo | cas | 4   | 1900 | r     | del  | M       |                  |     |     |      | Slavík 1996b, Slavík in F5                         |
| <i>Erucastrium gallicum</i> (Willd.) O. E. Schulz                                  | Bras  | a  | neo | nat | 8   | 1867 | sc    | acc  | E       |                  | 3   |     |      | Zelený in F3                                       |
| <i>Erucastrium nasturtifolium</i> (Poir.) O. E. Schulz                             | Bras  | b  | pe  | neo | nat | 8    | 1870  | la   | acc     | E M              | 4   |     |      | Štěpánek 1983, Štěpánek in F3                      |
| <i>Eryngium amethystinum</i> L.  | Apia  | pe | neo | cas | 4   | 1966 | s+v   | del  | M       |                  |     |     |      | Štěpánek 1983, Štěpánek in F3                      |
| <i>Eryngium giganteum</i> M. Bieb.   | Apia  | pe | neo | cas | 4   | 1995 | s+v   | del  | E M     |                  |     |     |      | Tomšovic in F5                                     |
| <i>Erysinum capitatum</i> var. <i>pursinii</i> (Durand) Rollins                    | Bras  | b  | pe  | neo | cas | 4    | 1942  | v    | del     | AmN              |     |     |      | Tomšovic in F5                                     |
| <i>Erysinum cheiranthoides</i> L. subsp. <i>cheiranthoides</i>                     | Bras  | a  | ar  | nat | 13  |      | c     | acc  | E M As  | 1 <sup>239</sup> | 13  |     |      | Tomšovic in F5                                     |
| <i>Erysinum cheiri</i> (L.) Crantz   | Bras  | pe | neo | nat | 11  | 1819 | r     | del  | M       |                  | 2   |     |      | Kirschner & Štěpánek 1984, Štěpánek in F3          |
| <i>Erysinum repandum</i> L.  | Bras  | a  | ar  | cas | 2   |      | r     | acc  | E       |                  | 5   |     |      | Štěpánek in F3                                     |
| <i>Erythronium dens-canis</i> L.   | Lili  | pe | neo | nat | 9   | 1819 | r     | del  | E       |                  | 3   |     |      | Štěpánek in F3                                     |
| <i>Eschscholzia californica</i> Cham.  | Papa  | a  | neo | cas | 4   |      | r     | del  | AmN     |                  | 1   |     |      | Kaplan in A4, Šídlo 2009, Bělohávková in F8        |
| <i>Euclidium syriacum</i> (L.) W. T. Aiton   | Bras  | a  | ar  | cas | 2   |      | v     | acc  | M       |                  |     |     |      | Kubát in F1  |
| <i>Euphorbia agraria</i> M. Bieb.  | Euph  | pe | neo | cas | 1   | 2005 | s+v   | acc  | M       |                  |     |     |      | Kirschner & Sutorý in F3                           |
| <i>Euphorbia chamaesyce</i> L.   | Euph  | a  | neo | cas | 1   |      | v     | acc  | AmN     |                  |     |     |      | Čáp 2008, Čáp in A4                                |
| <i>Euphorbia exigua</i> L.   | Euph  | a  | ar  | nat | 13  |      | sc    | acc  | M       | 5 <sup>251</sup> | 8   |     |      | Chrtěk & Křísa in F3                               |
| <i>Euphorbia falcata</i> L.  | Euph  | a  | ar  | nat | 6   |      | sc    | acc  | M       | 4 <sup>52</sup>  | 2   |     |      | Chrtěk & Křísa in F3                               |
| <i>Euphorbia helioscopia</i> L.  | Euph  | a  | ar  | nat | 13  |      | c     | acc  | M       | 2 <sup>773</sup> | 7   |     |      | Chrtěk & Křísa in F3                               |
| <i>Euphorbia humifusa</i> Willd.   | Euph  | a  | neo | cas | 1   |      | v     | acc  | As      |                  |     |     |      | Chrtěk & Křísa in F3                               |
| <i>Euphorbia lagascae</i> Spreng.  | Euph  | a  | neo | cas | 1   | 1974 | v     | acc  | M       |                  |     |     |      | Unar 1978, Chrtěk & Křísa in F3                    |
| <i>Euphorbia lathyris</i> L.   | Euph  | a  | neo | cas | 4   | 1872 | r     | del  | M       |                  | 3   |     |      | Chrtěk & Křísa in F3                               |
| <i>Euphorbia maculata</i> L.   | Euph  | a  | neo | cas | 1   |      | r     | acc  | AmN     |                  |     |     |      | Chrtěk & Křísa in F3, Simonová in A7               |
| <i>Euphorbia marginata</i> Pursh   | Euph  | a  | neo | cas | 4   |      | r     | del  | AmN     |                  |     |     |      | Chrtěk & Křísa in F3                               |

| Taxon   | Fam   | LH   | Res | Inv | PG | Ist     | Abund | Path | Origin  | Cover             | Hab | IEc | IEen | Source   |
|---|-------|------|-----|-----|----|---------|-------|------|---------|-------------------|-----|-----|------|--|
| <i>Euphorbia myrsinites</i> L.  | Euph  | pe   | neo | cas | 4  | 1998    | r     | del  | E As    |                   |     |     |      | this study   |
| <i>Euphorbia peplis</i> L.  | Euph  | a    | ar  | nat | 13 |         | c     | acc  | M       | 1 <sup>85</sup>   | 7   |     |      | Chrtěk & Křísa in F3                                       |
| <i>Euphorbia taurinensis</i> All.   | Euph  | a    | neo | cas | 1  | 1930    | r     | acc  | M       |                   | 3   |     |      | Chrtěk & Křísa 1970, Chrtěk & Křísa in F3, Jongepier in A3 |
| <i>Euphrasia salisburgensis</i> Funck                                     | Orob  | a p  | neo | cas | 4  | ca 1900 | s+v   | del  | E       |                   |     |     |      | Stursa et al. 2009, this study                             |
| <i>Eurybia divaricata</i> (L.) G. L. Nesom                                | Aster | pe   | neo | cas | 4  | ca 1920 | r     | del  | AmN     |                   |     |     |      | Pyšek & Vobořil 2002, Kovanda & Kubát in F7                |
| <i>Eurybia macrophylla</i> (L.) Cass.                                     | Aster | pe   | neo | cas | 4  |         | r     | del  | AmN     |                   |     |     |      | Kovanda & Kubát in F7                                      |
| <i>Fagopyrum esculentum</i> Moench  | Poly  | a    | ar  | cas | 4  |         | r     | del  | anec    |                   | 4   |     |      | Chrtěk in F2   |
| <i>Fagopyrum tataricum</i> (L.) Gaertn.                                   | Poly  | a    | neo | cas | 4  | 1880    | r     | del  | As      |                   | 2   |     |      | Chrtěk in F2   |
| <i>Fallopia aueritii</i> (L. Henry) Holub                                 | Poly  | s    | neo | nat | 12 |         | sc    | del  | As      |                   | 4   | yes |      | Chrtěk in F2   |
| <i>Fallopia xconvolvuloides</i> (Brägger) Holub                           | Poly  | a    | ar  | cas | 1  |         | r     | acc  | hybrid  |                   |     |     |      | Chrtěk in F2   |
| <i>Fallopia convolvulus</i> (L.) Á. Löve                                  | Poly  | a    | ar  | nat | 13 |         | c     | acc  | M       | 3 <sup>1860</sup> | 38  |     |      | Chrtěk in F2   |
| <i>Fenulago confusa</i> Velen.  | Apiac | pe   | neo | cas | 4  | 1998    | r     | del  | M       |                   |     | yes |      | Rotreklová & Řehořek in A8                                 |
| <i>Ficus carica</i> L.  | Mora  | t s  | ar  | cas | 4  |         | r     | del  | M       |                   |     |     |      | Eitel 1982, Zelený in F1                                   |
| <i>Filago pyramidalata</i> L.   | Aster | a    | neo | cas | 1  | 1833    | s+v   | acc  | E M     |                   |     |     |      | Wagenitz 1965, Stech in F7                                 |
| <i>Filipendula kamischatica</i> (Pall.) Maxim.                            | Rosa  | pe   | neo | cas | 4  | 1940    | v     | del  | As      |                   |     |     |      | Smrček & Malina 1984, Smejkal in F4                        |
| <i>Foeniculum vulgare</i> Mill.   | Apiac | b pe | ar  | cas | 4  |         | r     | del  | M       |                   |     |     |      | Tomšovic in F5   |
| <i>Forsythia suspensa</i> (Thunb.) Vahl                                   | Olea  | s    | neo | cas | 4  |         | r     | del  | As      |                   |     |     |      | Pyšek et al. 2002  |
| <i>Fragaria xananassa</i> (Weston) Rozier                                 | Rosa  | pe   | neo | nat | 11 |         | sc    | del  | anec    |                   | 5   |     |      | Křísa in F4  |
| <i>Fraxinus ornus</i> L.  | Olea  | t    | neo | cas | 4  | 1950    | r     | del  | E M     |                   |     |     |      | Pyšek et al. 2002  |
| <i>Fraxinus pennsylvanica</i> Marshall                                    | Olea  | t    | neo | inv | 18 |         | la    | del  | AmN     |                   | 5   | yes |      | Kobřížek in F5   |
| <i>Fritillaria meleagris</i> L.   | Lili  | pe   | neo | cas | 4  | 1819    | r     | del  | E       |                   |     |     |      | Bělohávková in F8  |
| <i>Fumaria capreolata</i> L.  | Papa  | a    | neo | cas | 4  |         | r     | del  | M       |                   |     |     |      | Smejkal in F1  |
| <i>Fumaria officinalis</i> L. subsp. <i>officinalis</i>                   | Papa  | a    | ar  | nat | 13 |         | sc    | acc  | M       | 2 <sup>346</sup>  | 9   |     |      | Smejkal in F1  |
| <i>Fumaria officinalis</i> subsp. <i>wirgenii</i> (W. D. J. Koch) Arcang. | Papa  | a    | ar  | nat | 13 |         | c     | acc  | M       |                   |     |     |      | Smejkal in F1  |
| <i>Fumaria parviflora</i> Lam.  | Papa  | a    | neo | cas | 2  | 1860s   | v     | acc  | M       |                   |     |     |      | Smejkal in F1  |
| <i>Fumaria rostellata</i> Knaf  | Papa  | a    | ar  | nat | 13 |         | sc    | acc  | M       | 3 <sup>42</sup>   | 2   |     |      | Smejkal in F1  |
| <i>Fumaria schleicheri</i> Soy.-Will.                                     | Papa  | a    | ar  | nat | 13 |         | sc    | acc  | M       |                   | 15  |     |      | Smejkal in F1  |
| <i>Fumaria vaillantii</i> Loisel. subsp. <i>vaillantii</i>                | Papa  | a    | ar  | nat | 13 |         | sc    | acc  | M       | 3 <sup>80</sup>   | 16  |     |      | Smejkal in F1  |
| <i>Fumaria vaillantii</i> subsp. <i>schrammii</i> (Asch.) Nyman           | Papa  | a    | ar  | nat | 6  |         | r     | acc  | M       |                   |     |     |      | Smejkal in F1  |
| <i>Gagea villosa</i> (M. Bieb.) Sweet                                     | Lili  | pe   | ar  | nat | 6  |         | sc    | acc  | M       |                   | 9   |     |      | Hrouda in F8   |
| <i>Gaillardia x grandiflora</i> Van Houtte                                | Aster | pe   | neo | cas | 4  | 2003    | r     | del  | anec    |                   |     |     |      | Bělohávková in F7  |
| <i>Gaillardia pulchella</i> Foug.   | Aster | a    | neo | cas | 4  |         | r     | del  | AmN     |                   |     |     |      | Bělohávková in F7  |
| <i>Galega officinalis</i> L.  | Faba  | pe   | ar  | nat | 10 |         | r     | del  | E M     |                   | 11  |     |      | Chrtková in F4   |
| <i>Galeobolom argentatum</i> Smejkal                                      | Lami  | pe   | neo | nat | 12 |         | sc    | del  | anec    |                   | 11  |     |      | Smejkal 1975a, Dvořáková in F6                             |
| <i>Galeopsis segetum</i> Neck.  | Lami  | a    | neo | cas | 4  | 1852    | r     | del  | E       |                   |     |     |      | Slavík in F6   |
| <i>Galinoga parviflora</i> Cav.   | Aster | a    | neo | inv | 14 | 1880    | c     | acc  | AmS     | 7 <sup>439</sup>  | 13  | yes |      | Slavík in F7   |
| <i>Galinoga quadriradiata</i> Ruiz et Pav.                                | Aster | a    | neo | inv | 14 | 1901    | c     | acc  | AmC AmS | 10 <sup>75</sup>  | 13  |     |      | Slavík in F7   |
| <i>Gallium murale</i> (L.) All.   | Rubi  | a    | neo | cas | 1  | 2009    | s     | acc  | E       |                   |     |     |      | Prantl in A10  |
| <i>Gallium paritense</i> L.   | Rubi  | a    | neo | cas | 1  | 1835    | v     | acc  | E M     |                   |     |     |      | Kaplan & Řehořek 1998, Kaplan in F6,                       |
| <i>Gallium rubioides</i> L.   | Rubi  | pe   | neo | cas | 1  | 1852    | v     | acc  | E       |                   |     |     |      | Štěpánková in F6   |

| Taxon  | Fam   | LH | Res | Inv | PG  | Ist     | Abund | Path | Origin | Cover            | Hab | IEc | IE n | Source   |
|--|-------|----|-----|-----|-----|---------|-------|------|--------|------------------|-----|-----|------|--|
| <i>Galium spurium</i> L. subsp. <i>spurium</i>                                   | Rubi  | a  | ar  | nat | 6   |         | sc    | acc  | E M    | 2 <sup>189</sup> | 5   |     |      | Kaplan in F6                                     |
| <i>Galium tricornutum</i> Dandy  | Rubi  | a  | ar  | cas | 2   |         | r     | acc  | M      |                  | 3   |     |      | Kaplan in F6, Štefánek in A4                     |
| <i>Galium vernucosum</i> Huds.   | Rubi  | a  | neo | cas | 1   | 1822    | v     | acc  | M      |                  |     |     |      | Kaplan in F6                                     |
| <i>Gastroidium ventricosum</i> (Gouan) Schinz et Thell.                          | Poac  | a  | neo | cas | 1   | 1961    | s+v   | acc  | M      |                  |     |     |      | Dvořák & Kühn 1966, Kubát et al. 2002            |
| <i>Gauidinia fragilis</i> (L.) P. Beauv.   | Poac  | a  | neo | cas | 1   |         | r     | acc  | M      |                  |     |     |      | Dostál 1989, Kubát et al. 2002                   |
| <i>Genista sagittalis</i> L.   | Faba  | ss | neo | nat | 7   | 1928    | r     | acc  | E      |                  | 6   |     |      | Skalická 1993, Skalická in F4                    |
| <i>Genitiana lutea</i> L. subsp. <i>lutea</i>                                    | Gent  | pe | neo | nat | 9   |         | r     | del  | E      |                  |     |     |      | Kirschner & Kirschnerová in F6                   |
| <i>Genitiana obtusifolia</i> subsp. <i>norica</i> (A. Kern. et Jos. Kern.) Holub | Gent  | b  | neo | cas | 4   | ca 1900 | s     | del  | E      |                  |     |     |      | Štursa et al. 2009                               |
| <i>Geranium columbinum</i> L.  | Gera  | a  | ar  | nat | 13  |         | sc    | acc  | M      | 2 <sup>67</sup>  | 23  |     |      | Slavík 1997ab, Slavík in F5                      |
| <i>Geranium dissectum</i> L.   | Gera  | a  | ar  | nat | 13  |         | sc    | acc  | M      | 2 <sup>73</sup>  | 2   |     |      | Slavík in F5                                     |
| <i>Geranium ibericum</i> Cav.  | Gera  | pe | neo | cas | 4   | 1965    | r     | del  | M      |                  |     |     |      | Slavík 1997ab, Slavík in F5                      |
| <i>Geranium macrorrhizum</i> L.  | Gera  | pe | neo | nat | 11  |         | r     | del  | E M    |                  | 3   |     |      | Slavík 1997ab, Slavík in F5                      |
| <i>Geranium molle</i> L. subsp. <i>molle</i>                                     | Gera  | a  | ar  | nat | 7   |         | r     | acc  | M      |                  | 8   |     |      | Slavík 1997ac, Slavík in F5                      |
| <i>Geranium purpureum</i> Vill.  | Gera  | a  | neo | cas | 1   | 2005    | r     | acc  | M      |                  |     |     |      | Růžička & Koblížek 2009                          |
| <i>Geranium pusillum</i> Burm. f.  | Gera  | a  | ar  | nat | 13  |         | c     | acc  | E M    | 2 <sup>703</sup> | 18  |     |      | Slavík 1997ac, Slavík in F5                      |
| <i>Geranium pyrenaicum</i> Burm. f.  | Gera  | b  | pe  | nat | 13  | 1819    | c     | acc  | M      |                  | 7   |     |      | Slavík 1997ac, Slavík in F5                      |
| <i>Geranium reflexum</i> L.  | Gera  | pe | neo | cas | 4   | 1992    | r     | del  | M      |                  |     |     |      | Slavík 1997ab, Slavík in F5                      |
| <i>Geranium sibiricum</i> L.   | Gera  | a  | neo | cas | 1   | 1851    | r     | acc  | E M    |                  | 1   |     |      | Slavík 1997ab, Slavík in F5, Fajmon et al. in A7 |
| <i>Geranium sibiricum</i> L.   | Gera  | pe | neo | nat | 10  | 1850    | r     | del  | E As   |                  |     |     |      | Chřek 1989, Slavík in F5                         |
| <i>Geranium versicolor</i> L.  | Gera  | pe | neo | cas | 4   | 1986    | v     | del  | M      |                  |     |     |      | Chřek 1989, Slavík in F5                         |
| <i>Geum alepiticum</i> Jacq.   | Rosa  | pe | neo | cas | 1   | 1923    | r     | acc  | E As   |                  | 4   |     |      | Domin 1923, Smejkal 1988, 1989b, Smejkal in F4   |
| <i>Geum xgajewskii</i> Smejkal   | Rosa  | pe | neo | cas | 1   | 1956    | v     | acc  | hybrid |                  |     |     |      | Smejkal in F4                                    |
| <i>Geum macrophyllum</i> Willd.  | Rosa  | pe | neo | cas | 4   | 1956    | r     | del  | As AmN |                  |     |     |      | Smejkal in F4                                    |
| <i>Geum xspurium</i> Fisch. et C. A. Mey.  | Rosa  | pe | neo | cas | 1   |         | v     | acc  | hybrid |                  |     |     |      | Smejkal in F4                                    |
| <i>Gilia achilleifolia</i> Benth.  | Pole  | a  | neo | cas | 4   |         | r     | del  | AmN    |                  |     |     |      | Křisa in F6                                      |
| <i>Gilia capitata</i> Sims   | Pole  | pe | neo | cas | 4   | 1982    | s     | del  | AmN    |                  |     |     |      | Pyšek et al. 2002                                |
| <i>Gilia tricolor</i> Benth.   | Pole  | a  | neo | cas | 4   |         | r     | del  | AmN    |                  |     |     |      | Křisa in F6                                      |
| <i>Glancium corniculatum</i> (L.) Rudolph  | Papa  | a  | ar  | cas | 2   |         | r     | acc  | M      |                  | 4   |     |      | Kubát in F1                                      |
| <i>Glaucium flavum</i> Crantz  | Papa  | b  | pe  | ar  | cas | 3       | v     | del  | M      |                  |     |     |      | Kubát in F1                                      |
| <i>Glebionis coronaria</i> (L.) Spach  | Aster | a  | neo | cas | 4   | 1879    | r     | del  | M      |                  |     |     |      | Zelený in F7                                     |
| <i>Glebionis segetum</i> (L.) Fourr.   | Aster | t  | neo | cas | 4   | 1872    | r     | del  | M      |                  | 3   |     |      | Zelený in F7                                     |
| <i>Gleditsia triacanthos</i> L.  | Faba  | a  | neo | cas | 4   | 2008    | r     | del  | AmN    |                  |     | yes |      | this study                                       |
| <i>Glycyrrhiza sriata</i> (Lam.) Hitchc.   | Poac  | pe | neo | nat | 8   |         | r     | acc  | AmN    |                  |     |     |      | Dančák 2002, Kubát et al. 2002                   |
| <i>Glycyrrhiza max</i> (L.) Merr.  | Faba  | a  | neo | cas | 4   | 1958    | r     | del  | anc    |                  | 2   |     |      | Chřtková in F4                                   |
| <i>Glycyrrhiza glabra</i> L.   | Faba  | pe | ar  | nat | 9   |         | r     | del  | M      |                  | 5   |     |      | Chřtková in F4                                   |
| <i>Gratiola neglecta</i> Torr.   | Plant | a  | neo | cas | 1   | 2002    | r     | acc  | AmN    |                  |     |     |      | Šumberová & Ducháček 2009                        |
| <i>Gutzoia abyssinica</i> (L. f.) Cass.  | Aster | a  | neo | cas | 4   | 1937    | r     | del  | Af     |                  |     |     |      | Smejkal 1989a, Zelený in F7                      |
| <i>Gypsophila elegans</i> M. Bieb.   | Cary  | a  | neo | cas | 4   | 1968    | r     | del  | E M    |                  |     |     |      | Šourková in F2                                   |
| <i>Gypsophila scorzonifolia</i> Ser.   | Cary  | pe | neo | nat | 7   | 1900    | r     | acc  | M      |                  |     |     |      | Grüll & Smejkal 1966, Šourková in F2             |



| Taxon   | Fam   | LH   | Res | Inv | PG | Ist   | Abund | Path | Origin  | Cover            | Hab | IEc  | IEen | Source  |
|---|-------|------|-----|-----|----|-------|-------|------|---------|------------------|-----|------|------|---|
| <i>Helianthemum nummularium</i> (L.) Mill. subsp. <i>nummularium</i>      | Cist  | ss   | neo | cas | 4  |       | s     | del  | E M     |                  |     |      |      | Hrouda in Hejný & Slavík 1990   |
| <i>Helianthus annuus</i> L.   | Aster | a    | neo | cas | 5  | 1872  | sc    | del  | AmN     |                  | 4   |      |      | Jehlík 1998a, Kirschner & Šída in F7  |
| <i>Helianthus pauciflorus</i> Pers.                                       | Aster | pe   | neo | nat | 12 |       | sc    | del  | anc     |                  | 5   |      |      | Kirschner & Šída in F7  |
| <i>Helianthus plicatiflorus</i> Nutt.                                     | Aster | pe   | neo | nat | 12 |       | r     | del  | AmN     |                  |     |      |      | Kirschner & Šída in F7  |
| <i>Helianthus petiolaris</i> Nutt.  | Aster | a    | neo | cas | 1  | 1974  | s+v   | acc  | AmN     |                  |     |      |      | Kirschner & Šída in F7  |
| <i>Helianthus salicifolius</i> A. Dietr.                                  | Aster | pe   | neo | cas | 4  | 1973  | s+v   | del  | AmN     |                  |     |      |      | Kirschner & Šída in F7  |
| <i>Helianthus strimnosus</i> L.   | Aster | pe   | neo | cas | 4  |       | s+v   | del  | AmN     |                  |     |      |      | Pyšek et al. 2002, Kirschner & Šída in F7   |
| <i>Helianthus tuberosus</i> L.  | Aster | pe   | neo | inv | 18 | 1885  | c     | del  | AmN     | 26 <sup>62</sup> | 5   | yes  |      | Kirschner & Šída in F7  |
| <i>Helichrysum thianschanicum</i> Regel                                   | Aster | pe   | neo | cas | 4  | 1941  | s+v   | del  | As      |                  |     |      |      | Stech in F7   |
| <i>Heliopsis helianthoides</i> (L.) Sweet                                 | Aster | pe   | neo | cas | 4  | 1970s | r     | del  | AmN     |                  |     |      |      | Bělohávková in F7   |
| <i>Heliotropium europaeum</i> L.  | Bora  | a    | ar  | cas | 2  |       | v     | acc  | M       |                  |     |      |      | Slavík in F6, Žáková in A6  |
| <i>Helleborus niger</i> L.  | Ranu  | pe   | neo | cas | 4  |       | r     | del  | E M     |                  |     |      |      | Chrtková in F1  |
| <i>Helleborus odoratus</i> Willd.   | Ranu  | pe   | neo | cas | 4  | 1874  | r     | del  | E M     |                  |     |      |      | Chrtková in F1  |
| <i>Helleborus orientalis</i> Lam.   | Ranu  | pe   | neo | cas | 4  |       | r     | del  | E M     |                  |     |      |      | Chrtková in F1  |
| <i>Helleborus viridis</i> L.  | Ranu  | pe   | neo | cas | 4  | 1819  | sc    | del  | E       |                  |     |      |      | this study  |
| <i>Helminthotheca echioides</i> (L.) Holub                                | Aster | pe   | neo | cas | 1  | 1861  | r     | acc  | M       |                  |     |      |      | Chrtková in F1  |
| <i>Hemerocallis fulva</i> (L.) L.   | Xant  | pe   | neo | cas | 4  | 1883  | sc    | del  | As      |                  | 5   |      |      | Štěpánek in F7  |
| <i>Hemerocallis lilioasphodelus</i> L.                                    | Xant  | pe   | neo | cas | 4  | 1883  | r     | del  | As      |                  |     |      |      | Bělohávková in F8   |
| <i>Heracleum mantegazzianum</i> Sommier et Levier                         | Api   | b pe | neo | inv | 16 | 1862  | la    | del  | E       | 26 <sup>27</sup> | 14  | yes+ |      | Bělohávková in F8<br>Holub in F5, Pyšek 1991, Pyšek & Pyšek 1994, Pyšek et al. 2008 |
| <i>Heracleum persicum</i> Fisch.  | Api   | b pe | neo | cas | 4  | 1960  | s     | del  | M       |                  |     |      |      | Holub in F5   |
| <i>Herniaria cinerea</i> DC.  | Cary  | a    | neo | cas | 1  | 1960  | r     | acc  | M       |                  |     |      |      | Sutorý in F2  |
| <i>Herniaria hirsuta</i> L.   | Cary  | a pe | ar  | nat | 6  |       | r     | acc  | M       |                  |     |      |      | Sutorý in F2  |
| <i>Herniaria incana</i> Lam.  | Cary  | pe   | neo | cas | 1  | 1986  | s     | acc  | E s     |                  |     |      |      | Hlaváček 1989, 1991, Hlaváček & Pyšek 1992  |
| <i>Hesperis matronalis</i> L. subsp. <i>matronalis</i>                    | Bras  | pe   | neo | nat | 9  | 1817  | sc    | del  | E M     |                  | 8   |      |      | Dvořák 1968, Dvořák in F3   |
| <i>Hesperis matronalis</i> subsp. <i>candida</i> (Schulzer et al.) Thell. | Bras  | pe   | neo | nat | 9  | 1909  | r     | del  | E       |                  |     |      |      | Dvořák 1968, Dvořák in F3   |
| <i>Hesperis matronalis</i> subsp. <i>scharii</i> Soó                      | Bras  | pe   | neo | cas | 4  | 1933  | r     | del  | E       |                  |     |      |      | Dvořák 1968, Dvořák in F3   |
| <i>Hesperis pycnoarrhicha</i> Borbás et Degen                             | Bras  | b pe | neo | cas | 4  | 1950  | s     | del  | E       |                  |     |      |      | Dvořák in F3  |
| <i>Hibiscus trionum</i> L.  | Malv  | a    | ar  | nat | 6  |       | r     | acc  | M       |                  |     |      |      | Slavík in F3  |
| <i>Hieracium heldreichii</i> agg.   | Aster | pe   | neo | cas | 4  | 1978  | s     | del  | E M     |                  |     |      |      | this study  |
| <i>Hieracium mixtum</i> Froel.  | Aster | pe   | neo | cas | 4  | 2006  | s     | del  | E       |                  |     |      |      | Kocián & Chrtnek in A9  |
| <i>Hippocrepis emerus</i> (L.) Lassen                                     | Faba  | s    | neo | cas | 4  | 1891  | v     | del  | E M     |                  |     |      |      | Chrtková in F4  |
| <i>Hippophaë rhamnoides</i> L.  | Elae  | s    | neo | cas | 4  | 1902  | r     | del  | E M As  |                  |     |      |      | Pyšek et al. 2002   |
| <i>Hirschfeldia incana</i> (L.) Lagr.-Foss.                               | Bras  | a b  | neo | cas | 1  | 1956  | r     | acc  | M       |                  | 3   |      |      | yes<br>Křičan & Kopecký 1960, Štěpánek in F3, Jehlík 1998a                          |
| <i>Hopia obtusa</i> (Kunth) Zuloaga et Morrone                            | Poac  | pe   | neo | cas | 1  | 1961  | s+v   | acc  | AmC AmS |                  |     |      |      | Dvořák & Kühn 1966, Kubát et al. 2002   |
| <i>Hordeum brevisubulatum</i> (Trin.) Link                                | Poac  | a    | neo | cas | 1  | 1974  | s+v   | acc  | As      |                  |     |      |      | Danihelka in A8   |
| <i>Hordeum geniculatum</i> All.   | Poac  | a    | neo | cas | 1  | 1961  | r     | acc  | E M     |                  |     |      |      | Dvořák & Kühn 1966, Kubát et al. 2002   |
| <i>Hordeum jubatum</i> L.   | Poac  | a    | neo | nat | 12 |       | sc    | del  | AmN     |                  |     |      |      | Kubát et al. 2002   |

| Taxon   | Fam   | LH     | Res | Inv | PG | Ist  | Abund | Path | Origin      | Cover             | Hab | IEc  | IE n | Source   |
|---|-------|--------|-----|-----|----|------|-------|------|-------------|-------------------|-----|------|------|--|
| <i>Hordeum marinum</i> Huds.  | Poac  | a      | neo | cas | 1  |      | r     | acc  | E M         |                   |     |      |      | Kubát et al. 2002  |
| <i>Hordeum marinum</i> L. subsp. <i>marinum</i>                       | Poac  | a      | ar  | nat | 13 |      | c     | acc  | M           |                   | 8   |      |      | Kubát et al. 2002  |
| <i>Hordeum marinum</i> subsp. <i>leporinum</i> (Link) Arcang.         | Poac  | a      | neo | cas | 1  | 1967 | s+v   | acc  | M           |                   |     |      |      | Pyšek et al. 2002  |
| <i>Hordeum secalinum</i> Schreb.                                      | Poac  | pe     | neo | cas | 1  | 1959 | r     | acc  | M           |                   |     |      |      | Kubát et al. 2002, Danilhelka in A8                                  |
| <i>Hordeum vulgare</i> Ditrichon Group                                | Poac  | a      | ar  | cas | 5  |      | r     | del  | anec        |                   | 4   |      |      | Kubát et al. 2002  |
| <i>Hordeum vulgare</i> Vulgare Group                                  | Poac  | a      | ar  | cas | 5  |      | sc    | del  | anec        |                   |     |      |      | Kubát et al. 2002  |
| <i>Hosta plantaginea</i> (L.am.) Asch.                                | Aspa  | pe     | neo | cas | 4  |      | r     | del  | As          |                   |     |      |      | Pyšek et al. 2002  |
| <i>Humulus scandens</i> (Lour.) Merr.                                 | Cann  | a      | neo | cas | 4  |      | r     | del  | As          |                   |     |      |      | Chřek in F1  |
| <i>Hyacinthella leucophaea</i> (K. Koch) Schur                        | Aspa  | pe     | neo | cas | 4  | 1960 | s     | del  | E           |                   |     |      |      | Šuk 2001   |
| <i>Hyacinthoides hispanica</i> (Mill.) Rothm.                         | Aspa  | pe     | neo | cas | 4  | 2007 | r     | del  | M           |                   |     |      |      | Trávníček 2010   |
| <i>Hylotelephium anacamperos</i> (L.) H. Ohba                         | Cras  | pe     | neo | cas | 4  |      | r     | del  | E           |                   |     |      |      | Grulich in F3  |
| <i>Hylotelephium ewersii</i> (Ledeb.) H. Ohba                         | Cras  | ss     | neo | cas | 4  |      | r     | del  | As          |                   |     |      |      | Grulich in F3  |
| <i>Hylotelephium spectabile</i> (Boreau) H. Ohba                      | Cras  | pe     | neo | cas | 4  |      | r     | del  | anec        |                   |     |      |      | Grulich in F3  |
| <i>Hyoscyamus albus</i> L.  | Sola  | b a pe | neo | cas | 1  | 1890 | v     | acc  | M           | 2 <sup>25</sup>   | 3   |      |      | Slavík in F6   |
| <i>Hyoscyamus niger</i> L.  | Sola  | b a    | ar  | nat | 13 |      | sc    | acc  | M As        |                   |     |      |      | Slavík in F6   |
| <i>Hyparrhenia hirta</i> (L.) Stapf                                   | Poac  | pe     | neo | cas | 1  | 1961 | s+v   | acc  | M           |                   |     |      |      | Dvořák & Kühn 1966, Kubát et al. 2002                                |
| <i>Hypericum annulatum</i> Moris                                      | Hype  | pe     | neo | cas | 1  | 2008 | s     | acc  | E           |                   |     |      |      | Sutory 2010a, b  |
| <i>Hyssopus officinalis</i> L.  | Lami  | ss     | ar  | cas | 4  |      | sc    | del  | M           |                   | 3   |      |      | Tomšovic in F6   |
| <i>Iberis amara</i> L.  | Bras  | a      | neo | cas | 4  | 1888 | r     | del  | M           |                   |     |      |      | Dvořáková in F3  |
| <i>Iberis sempervirens</i> L.   | Bras  | ss     | neo | cas | 4  |      | r     | del  | M           |                   |     |      |      | Dvořáková in F3  |
| <i>Iberis umbellata</i> L.  | Bras  | a      | neo | cas | 4  | 1880 | r     | del  | M           |                   |     |      |      | Dvořáková in F3  |
| <i>Impatiens balfourii</i> Hook. f.                                   | Balsa | a      | neo | cas | 4  |      | r     | del  | As          |                   |     | yes  |      | Slavík in F5   |
| <i>Impatiens balsamina</i> L.   | Balsa | a      | neo | cas | 4  |      | r     | del  | As          |                   |     |      |      | Slavík in F5   |
| <i>Impatiens glandulifera</i> Royle                                   | Balsa | a      | neo | inv | 16 | 1896 | la    | del  | As          | 18 <sup>02</sup>  | 16  | yes+ |      | Daumann 1967, Slavík in F5   |
| <i>Impatiens parviflora</i> DC.                                       | Balsa | a      | neo | inv | 16 | 1870 | c     | del  | As          | 6 <sup>1591</sup> | 45  | yes  |      | Vraštil 1952, Daumann 1967, Slavík in F5                             |
| <i>Impatiens scabriflora</i> DC.                                      | Balsa | a      | neo | cas | 4  | 1986 | v     | del  | As          |                   |     |      |      | Slavík in F5   |
| <i>Inula helenium</i> L.  | Aster | pe     | neo | nat | 9  | 1819 | sc    | del  | E M As      |                   | 3   |      |      | Hrouda in F7   |
| <i>Ipomoea hederacea</i> (L.) Jacq.                                   | Conv  | a      | neo | cas | 4  | 1972 | r     | del  | AmN & C & S |                   | 3   |      |      | Kubát et al. 2002  |
| <i>Ipomoea purpurea</i> (L.) Roth                                     | Conv  | a      | neo | cas | 4  | 1969 | r     | del  | AmC AmS     |                   | 3   |      |      | Křisa in F6  |
| <i>Iris × germanica</i> L.  | Irid  | pe     | ar  | nat | 11 |      | sc    | del  | E As        |                   | 8   |      |      | Hrouda & Grulich in F8   |
| <i>Iris × sambucina</i> L.  | Irid  | pe     | neo | cas | 4  |      | s     | del  | M           |                   |     |      |      | Pyšek et al. 2002, Hrouda & Grulich in F8                            |
| <i>Isatis tinctoria</i> L. subsp. <i>tinctoria</i>                    | Bras  | b pe   | ar  | nat | 11 |      | r     | del  | As          |                   |     |      |      | Hrouda & Grulich in F8   |
| <i>Isatis tinctoria</i> subsp. <i>praecox</i> (Traut.) Domin et Podp. | Bras  | b pe   | neo | cas | 1  | 1921 | s     | acc  | M           |                   | 6   |      |      | Kirschner & Sutory in F3   |
| <i>Isometia carinata</i> (Schousb.) Sch. Bip.                         | Aster | a      | neo | cas | 4  |      | r     | del  | Af          |                   |     |      |      | Kirschner & Sutory in F3, Kubát et al. 2002                          |
| <i>Iva xanthifolia</i> Nutt.  | Aster | a      | neo | nat | 8  | 1947 | sc    | acc  | AmN         |                   | 3   |      |      | Zelený in F7   |
| <i>Juglans nigra</i> L.   | Jugl  | t      | neo | cas | 4  |      | r     | del  | AmN         |                   | 3   |      |      | Lhotská & Slavík 1969, Hejny et al. 1973, Jehlík 1998a, Slavík in F7 |
| <i>Juglans regia</i> L.   | Jugl  | t      | ar  | nat | 12 |      | la    | del  | M           | 1 <sup>45</sup>   | 3   |      |      | Vicherek et al. 2000, Pyšek et al. 2002                              |
| <i>Juncus tenuis</i> Willd.   | Junc  | pe     | neo | nat | 13 | 1851 | c     | acc  | AmN         | 8 <sup>128</sup>  | 17  |      |      | Pyšek et al. 2002  |
| <i>Kickxia elatine</i> (L.) Dumort. subsp. <i>elatine</i>             | Plant | a      | ar  | nat | 6  |      | r     | acc  | M           |                   | 3   |      |      | Kubát et al. 2002  |
| <i>Kickxia spuria</i> (L.) Dumort. subsp. <i>spuria</i>               | Plant | a      | ar  | nat | 6  |      | r     | acc  | M           | 3 <sup>54</sup>   | 3   |      |      | Slavík in F6, Kaplan in A6   |

| Taxon   | Fam   | LH   | Res | Inv | PG | Ist  | Abund | Path | Origin | Cover             | Hab | IEc | IEu | Source   |
|---|-------|------|-----|-----|----|------|-------|------|--------|-------------------|-----|-----|-----|--|
| <i>Koelereteria paniculata</i> Laxm.                            | Sapi  | t    | neo | cas | 4  | 2009 | r     | del  | As     |                   |     |     |     | this study   |
| <i>Laburnum anagyroides</i> Medik.                              | Faba  | s t  | neo | nat | 12 | 1900 | la    | del  | E M    |                   | 11  |     |     | Skalická in F4   |
| <i>Lactuca sativa</i> L.  | Aster | a b  | ar  | cas | 4  |      | r     | del  | anec   |                   |     |     |     | Gulich in F7   |
| <i>Lactuca serriola</i> L.                                      | Aster | a b  | ar  | nat | 13 |      | c     | acc  | M      | 3 <sup>631</sup>  | 31  |     |     | Gulich in F7   |
| <i>Lactuca tatarica</i> (L.) C. A. Mey.                         | Aster | pe   | neo | cas | 1  | 1957 | r     | acc  | M      |                   | 1   |     |     | Hejny et al. 1973, Jehlík 1980, Jehlík 1998a, Gulich in F7 |
| <i>Lactuca virosa</i> L.  | Aster | a b  | neo | cas | 3  | 1872 | v     | del  | M      |                   |     |     |     | Gulich in F7   |
| <i>Lagurus ovatus</i> L.  | Poac  | a    | neo | cas | 4  |      | r     | del  | M      |                   |     |     |     | Dostál 1989, Kubát et al. 2002                             |
| <i>Lamium album</i> L.  | Lami  | pe   | ar  | nat | 13 |      | c     | acc  | E M    | 4 <sup>509</sup>  | 33  |     |     | Dvořáková in F6  |
| <i>Lamium amplexicaule</i> L.                                   | Lami  | a    | ar  | nat | 13 |      | sc    | acc  | M      | 2 <sup>602</sup>  | 11  |     |     | Dvořáková in F6  |
| <i>Lamium xholsaticum</i> E. H. L., Krause                      | Lami  | pe   | ar  | cas | 1  |      | r     | acc  | hybrid |                   |     |     |     | Dvořáková in F6  |
| <i>Lamium hybridum</i> Vill.                                    | Lami  | a    | neo | cas | 1  | 1901 | v     | acc  | E M    |                   |     |     |     | Otruba 1946, Dvořáková 1965                                |
| <i>Lamium confertum</i> Fr.                                     | Lami  | a    | neo | cas | 1  | 1862 | v     | acc  | E      |                   |     |     |     | Dvořáková in F6  |
| <i>Lamium orvula</i> L.   | Lami  | pe   | neo | cas | 4  |      | r     | del  | E      |                   |     |     |     | Dvořáková in F6  |
| <i>Lamium purpureum</i> L.                                      | Lami  | a b  | ar  | nat | 13 |      | c     | acc  | M      | 2 <sup>1084</sup> | 18  |     |     | Dvořáková in F6  |
| <i>Lappula patula</i> (Lehm.) Měnyh.                            | Bora  | a    | neo | cas | 1  | 1960 | v     | acc  | E M As |                   |     |     |     | Holub 1974, Kubát in F6                                    |
| <i>Lappula squarrosa</i> (Retz.) Dumort.                        | Bora  | a b  | ar  | nat | 6  |      | sc    | acc  | M As   |                   | 9   |     |     | Kubát in F6  |
| <i>Lapsana communis</i> L., subsp. <i>communis</i>              | Aster | a    | ar  | nat | 13 |      | c     | acc  | M      | 2 <sup>1180</sup> | 40  |     |     | Křisa in F7  |
| <i>Lathyrus annuus</i> L.                                       | Faba  | a    | neo | cas | 1  |      | v     | acc  | M      |                   | 15  |     |     | Chrtková & Bělohávková in F4                               |
| <i>Lathyrus aphaca</i> L.                                       | Faba  | a    | neo | nat | 8  |      | r     | acc  | M      |                   | 4   |     |     | Chrtková et al. 1977, Chrtková & Bělohávková in F4         |
| <i>Lathyrus cicera</i> L.                                       | Faba  | a    | neo | nat | 7  |      | r     | acc  | M      |                   |     |     |     | Bělohávková in F4  |
| <i>Lathyrus clymenum</i> L.                                     | Faba  | a    | neo | cas | 1  |      | v     | acc  | M      |                   |     |     |     | Chrtková & Bělohávková in F4                               |
| <i>Lathyrus hirsutus</i> L.                                     | Faba  | a    | neo | nat | 8  |      | r     | acc  | E M    |                   | 6   |     |     | Chrtková & Bělohávková in F4                               |
| <i>Lathyrus odoratus</i> L.                                     | Faba  | a    | neo | cas | 4  |      | r     | del  | M      |                   |     |     |     | Hádnec & Lustyk 2011, this study                           |
| <i>Lathyrus ochrus</i> (L.) DC.                                 | Faba  | a    | neo | cas | 1  |      | v     | acc  | M      |                   |     |     |     | Chrtková & Bělohávková in F4                               |
| <i>Lathyrus sativus</i> L.                                      | Faba  | a    | ar  | cas | 3  |      | r     | del  | anec   |                   |     |     |     | Chrtková & Bělohávková in F4                               |
| <i>Lathyrus tingitanus</i> L.                                   | Faba  | a    | neo | cas | 4  |      | r     | del  | M      |                   |     |     |     | Chrtková & Bělohávková in F4                               |
| <i>Lathyrus tuberosus</i> L.                                    | Faba  | pe   | ar  | nat | 13 |      | sc    | acc  | M      | 3 <sup>341</sup>  | 11  |     |     | Chrtková & Bělohávková in F4                               |
| <i>Lavandula angustifolia</i> Mill.                             | Lami  | ss   | ar  | cas | 4  |      | r     | del  | M      |                   |     |     |     | Tomšovic in F6   |
| <i>Lavatera trimestris</i> L.                                   | Malv  | a    | neo | cas | 4  |      | r     | del  | M      |                   |     |     |     | Slavík in F3   |
| <i>Lawrenzia glomerata</i> Hook.                                | Malv  | pe   | neo | cas | 1  | 1961 | s+v   | acc  | Au     |                   |     |     |     | Dvořák & Kühn 1966, Slavík in F3                           |
| <i>Legouisia hybrida</i> (L.) Delarbre                          | Camp  | a    | neo | cas | 4  | 1809 | r     | del  | E      |                   |     |     |     | Kovanda in F6  |
| <i>Legouisia pentagona</i> (L.) Druce                           | Camp  | a    | neo | cas | 4  | 2005 | s     | del  | M      |                   |     |     |     | Řehořek & Lososová in A8                                   |
| <i>Legouisia speculum-veneris</i> (L.) Chaix                    | Camp  | a    | neo | cas | 4  | 1809 | r     | del  | M      |                   |     |     |     | Kovanda in F6  |
| <i>Lemna turionifera</i> Landolt                                | Arac  | a pe | ar  | nat | 8  | 1992 | r     | acc  | A m N  |                   | 1   |     |     | Kaplan 2000, Kaplan in F8                                  |
| <i>Lens culinaris</i> Medik.                                    | Faba  | a    | ar  | cas | 4  |      | r     | del  | anec   |                   |     |     |     | Chrtková in F4   |
| <i>Leontopodium alpinum</i> Cass.                               | Aster | pe   | neo | cas | 4  | 1888 | r     | del  | E      |                   |     |     |     | Bělohávková in F7  |
| <i>Leonurus cardiaca</i> L., subsp. <i>cardiaca</i>             | Lami  | pe   | ar  | nat | 7  |      | sc    | acc  | anec   |                   |     |     |     | Holub 1993, Tomšovic in F6                                 |
| <i>Leonurus cardiaca</i> nothosubsp. <i>intermedius</i> Tzvelev | Lami  | pe   | neo | nat | 7  | 1887 | sc    | acc  | hybrid |                   |     |     |     | Holub 1993   |
| <i>Leonurus cardiaca</i> subsp. <i>villosus</i> (D'Urv.) Hyt.   | Lami  | pe   | neo | nat | 7  | 1899 | r     | acc  | E M    |                   |     |     |     | Holub 1993   |
| <i>Leonurus japonicus</i> Houtt.                                | Lami  | pe   | neo | cas | 4  | 1934 | v     | del  | As     |                   |     |     |     | Tomšovic in F6, Kubát et al. 2002                          |

| Taxon  | Fam   | LH   | Res | Inv | PG | Ist  | Abund | Path | Origin      | Cover            | Hab | IEc | IEs | Source   |
|--|-------|------|-----|-----|----|------|-------|------|-------------|------------------|-----|-----|-----|--|
| <i>Lepidium africanum</i> (Burm. f.) DC.                           | Bras  | a    | neo | cas | 1  | 1964 | s+v   | acc  | Af          |                  |     |     |     | Dvořáková in F3                                    |
| <i>Lepidium campestre</i> (L.) W. T. Aiton                         | Bras  | a b  | ar  | nat | 13 |      | sc    | acc  | E M         | 1 <sup>60</sup>  | 13  |     |     | Dvořáková in F3                                    |
| <i>Lepidium coronopus</i> (L.) Al-Shehbaz                          | Bras  | a b  | ar  | nat | 6  | 1904 | r     | acc  | M           | 22 <sup>31</sup> | 3   |     |     | Smejkal in F3                                      |
| <i>Lepidium densiflorum</i> Schrad.                                | Bras  | a b  | neo | nat | 8  | 1904 | la    | acc  | AmN         |                  | 2   | yes |     | Hejny et al. 1973, Dvořáková in F3                 |
| <i>Lepidium didymus</i> L.   | Bras  | a b  | neo | cas | 1  | 1903 | r     | acc  | AmS         |                  | 2   | yes |     | Smejkal in F3                                      |
| <i>Lepidium draba</i> (L.) Desv.                                   | Bras  | pe   | ar  | nat | 13 |      | c     | acc  | M           | 6 <sup>190</sup> | 14  | yes |     | Dvořáková in F3                                    |
| <i>Lepidium heterophyllum</i> Benth.                               | Bras  | pe   | neo | cas | 1  |      | r     | acc  | E           |                  | 3   |     |     | Dvořáková in F3                                    |
| <i>Lepidium latifolium</i> L.                                      | Bras  | pe   | neo | cas | 4  | 1900 | r     | del  | E M         |                  | 3   |     |     | Dvořáková in F3                                    |
| <i>Lepidium perfoliatum</i> L.                                     | Bras  | a b  | neo | cas | 1  | 1872 | r     | acc  | E M         |                  | 3   |     |     | Dvořáková in F3                                    |
| <i>Lepidium ruderale</i> L.  | Bras  | a b  | ar  | nat | 13 |      | c     | acc  | M           | 4 <sup>211</sup> | 8   |     |     | Dvořáková in F3                                    |
| <i>Lepidium sativum</i> L.   | Bras  | a    | neo | cas | 4  | 17th | r     | del  | M Af        |                  | 2   |     |     | Dvořáková in F3                                    |
| <i>Lepidium virginicum</i> L.                                      | Bras  | a b  | neo | nat | 8  | 1936 | sc    | acc  | AmN AmC     |                  | 3   | yes |     | Hejny et al. 1973, Dvořáková in F3                 |
| <i>Lepochloa chinensis</i> (L.) Nees                               | Poac  | a    | neo | cas | 1  |      | r     | acc  | As          |                  |     |     |     | Grüll 1979, Kubát et al. 2002                      |
| <i>Lepochloa fasciata</i> (Lam.) N. Snow                           | Poac  | a    | neo | cas | 1  |      | r     | acc  | AmN & C & S |                  |     |     |     | Kubát et al. 2002                                  |
| <i>Lepochloa panicca</i> subsp. <i>brachiata</i> (Steud.) N. Snow  | Poac  | a    | neo | cas | 1  | 1961 | r     | acc  | AmC AmS     |                  |     |     |     | Dvořák & Kühn 1966, Kubát et al. 2002              |
| <i>Leprodactylus holostoides</i> (C. A. Mey.) Fisch. et C. A. Mey. | Cary  | a    | neo | cas | 1  | 1967 | r     | acc  | M As        |                  |     |     |     | Dvořák in F2                                       |
| <i>Leucanthemella serotina</i> (L.) Tzvelev                        | Aster | pe   | neo | cas | 1  | 1973 | v     | acc  | E           |                  |     |     |     | Zelený in F7, Hadinec & Lustyk 2012                |
| <i>Leymus arenarius</i> (L.) Hochst.                               | Poac  | pe   | ar  | cas | 4  |      | r     | del  | M           |                  |     |     |     | Tomšovic in F5                                     |
| <i>Lilium bulbiferum</i> L.  | Lili  | pe   | neo | cas | 4  |      | r     | del  | E           |                  | 5   |     |     | Dostál 1989, Kubát et al. 2002                     |
| <i>Lilium candidum</i> L.  | Lili  | pe   | neo | cas | 4  |      | r     | del  | M           |                  |     |     |     | Hrouda in F8                                       |
| <i>Linaria arvensis</i> (L.) Desf.                                 | Plant | a    | ar  | cas | 2  |      | r     | acc  | M           |                  | 2   |     |     | Suda 1999, 2001, Grulich in F6                     |
| <i>Linaria maroccana</i> Hook. f.                                  | Plant | a    | neo | cas | 4  |      | r     | del  | M           |                  |     |     |     | Grulich in F6                                      |
| <i>Linaria repens</i> (L.) Mill.                                   | Plant | pe   | neo | nat | 9  | 1934 | r     | del  | M           |                  | 2   |     |     | Grulich in F6                                      |
| <i>Linaria vulgaris</i> Mill.                                      | Plant | pe   | ar  | nat | 13 |      | c     | acc  | M           | 1 <sup>438</sup> | 33  |     |     | Grulich in F6                                      |
| <i>Lindernia dubia</i> (L.) Pennell                                | Lind  | a    | neo | cas | 1  | 1989 | s     | acc  | AmN         |                  |     |     |     | Kurka 1990, Křisa in F6                            |
| <i>Linum usitatissimum</i> L.                                      | Lili  | a b  | ar  | cas | 5  |      | sc    | del  | anec        |                  | 3   |     |     | Hrouda in F5                                       |
| <i>Lobelia erinus</i> L.   | Camp  | a    | neo | cas | 4  |      | r     | del  | Af          |                  |     |     |     | Slavík in F6                                       |
| <i>Lobularia maritima</i> (L.) Desv.                               | Bras  | pe a | neo | cas | 4  | 1963 | r     | del  | M           |                  |     | yes |     | Smejkal in F3                                      |
| <i>Lolium xyliferum</i> Hausskn.                                   | Poac  | pe   | neo | nat | 11 |      | r     | del  | anec        |                  |     |     |     | Kubát et al. 2002                                  |
| <i>Lolium multiflorum</i> Lam.                                     | Poac  | pe   | neo | nat | 17 | 1883 | c     | del  | E           | 3 <sup>92</sup>  | 17  |     |     | Kubát et al. 2002                                  |
| <i>Lolium remotum</i> Schrank                                      | Poac  | a    | ar  | cas | 2  |      | v     | acc  | M           |                  |     |     |     | Kubát et al. 2002                                  |
| <i>Lolium rigidum</i> Gaudin subsp. <i>rigidum</i>                 | Poac  | a    | neo | cas | 1  |      | r     | acc  | M           |                  |     |     |     | Dvořák & Kühn 1966, Dostál 1989, Kubát et al. 2002 |
| <i>Lolium rigidum</i> subsp. <i>lepturoides</i> Semmen et Mauricio | Poac  | a    | neo | cas | 1  | 1971 | s+v   | acc  | M           |                  |     |     |     | Dostál 1989, Kubát et al. 2002                     |
| <i>Lolium temulentum</i> L.  | Poac  | a    | ar  | cas | 2  |      | v     | acc  | M           |                  |     |     |     | Kubát et al. 2002                                  |
| <i>Lonicera caprifolium</i> L.                                     | Capr  | s    | neo | nat | 12 | 1809 | sc    | del  | E M         |                  | 13  |     |     | Chrtrek in F5                                      |
| <i>Lonicera periclymenum</i> L.                                    | Capr  | s    | neo | nat | 11 | 1994 | sc    | del  | E           |                  | 7   |     |     | this study   |
| <i>Lonicera tatarica</i> L.  | Capr  | s    | neo | cas | 4  | 1872 | r     | del  | As          |                  | 5   |     |     | Chrtrek in F5                                      |
| <i>Lotus orniithopodioides</i> L.                                  | Faba  | a    | neo | cas | 4  | 1996 | r     | del  | M           |                  |     |     |     | this study   |
| <i>Linaria annua</i> L.  | Bras  | b    | neo | nat | 12 | 1819 | sc    | del  | M           |                  | 10  |     |     | Dvořák in F3                                       |
| <i>Lupinus albus</i> L.  | Faba  | a    | neo | cas | 4  | 1878 | r     | del  | M           |                  |     |     |     | Tomšovic & Bělohávková in F4                       |

| Taxon   | Fam   | LH     | Res | Inv | PG | Ist  | Abund | Path | Origin   | Cover             | Hab | IEc  | IEi | Source                                    |
|---|-------|--------|-----|-----|----|------|-------|------|----------|-------------------|-----|------|-----|---|
| <i>Lupinus angustifolius</i> L.   | Faba  | a      | neo | cas | 4  | 1900 | r     | del  | M        |                   |     |      |     | Tomšovic & Bělohávková in F4              |
| <i>Lupinus luteus</i> L.  | Faba  | a      | neo | cas | 3  | 1880 | v     | del  | M        |                   |     |      |     | Tomšovic & Bělohávková in F4              |
| <i>Lupinus polyphyllus</i> Lindl.                                       | Faba  | pe     | neo | inv | 18 | 1895 | c     | del  | AmN      | 1 <sup>31</sup>   | 14  | yes+ | yes | Tomšovic & Bělohávková in F4              |
| <i>Luzula nivea</i> (L.) DC.  | Junc  | pe     | neo | cas | 4  |      | r     | del  | E        |                   |     |      |     | Kubát et al. 2002                         |
| <i>Lychinis chalcadonica</i> L.   | Cary  | pe     | neo | cas | 4  |      | r     | del  | E As     |                   |     |      |     | Sourková in F2, Čáp in A3                 |
| <i>Lychinis coronaria</i> (L.) Desr.                                    | Cary  | pe     | neo | nat | 11 | 1879 | r     | del  | E M      |                   |     |      |     | Šourková in F2                            |
| <i>Lycium barbarum</i> L.   | Sola  | s      | neo | inv | 16 | 1870 | sc    | del  | E M      | 9 <sup>25</sup>   | 11  | yes  |     | Škalická in F6                            |
| <i>Lycium chinense</i> Mill.  | Sola  | s      | neo | cas | 4  |      | s     | del  | As       |                   |     |      |     | Pyšek et al. 2002                         |
| <i>Lycopsis arvensis</i> L.   | Bora  | a b    | ar  | nat | 6  |      | sc    | acc  | E        | 3 <sup>155</sup>  | 3   |      |     | Křisa in F6                               |
| <i>Lycopsis orientalis</i> L.   | Bora  | a b    | neo | cas | 1  | 1862 | r     | acc  | E M As   |                   |     |      |     | Krahulec 1981, Křisa in F6, Hadinec in A8 |
| <i>Lycopus europaeus</i> subsp. <i>membrifolius</i> (Mabillet) Skalický | Lami  | pe     | neo | cas | 1  | 1880 | s+v   | acc  | M        |                   |     |      |     | Skalický 1968, Chrtěk in F6               |
| <i>Lysimachia punctata</i> L.   | Prim  | pe     | neo | nat | 11 | 1819 | c     | del  | E M      |                   | 7   |      |     | Skalický in F3                            |
| <i>Lythrum junceum</i> Banks et Sol.                                    | Lyth  | pe     | neo | cas | 1  | 1965 | s+v   | acc  | M        |                   |     |      |     | Toman & Starý 1966, Dvořáková in F5       |
| <i>Macleaya cordata</i> (Willd.) R. Br.                                 | Papa  | pe     | neo | cas | 4  |      | r     | del  | As       |                   |     |      |     | Kubát in F1                               |
| <i>Madia sativa</i> Molina  | Aster | a      | neo | cas | 3  | 1965 | v     | del  | AmC      |                   |     |      |     | Zelený in F7                              |
| <i>Mahonia aquifolium</i> (Pursh) Nutt.                                 | Berb  | s      | neo | nat | 12 |      | la    | del  | AmN      |                   | 4   | yes  |     | Zelený in F1                              |
| <i>Malthonia africana</i> (L.) W. T. Aiton                              | Bras  | a      | neo | cas | 1  | 1935 | v     | acc  | M        |                   |     |      |     | Krist 1940, Dvořák in F3                  |
| <i>Malcolmia chita</i> (L.) DC.   | Bras  | a      | neo | cas | 4  | 1850 | r     | del  | M        |                   |     |      |     | Dvořák in F3                              |
| <i>Malcolmia maritima</i> (L.) W. T. Aiton                              | Bras  | a      | neo | cas | 4  | 1969 | r     | del  | M        |                   |     |      |     | Dvořák in F3                              |
| <i>Malope trifida</i> Cav.  | Rosa  | s t    | neo | cas | 4  |      | s     | del  | As       |                   |     |      |     | Slavík in F3                              |
| <i>Malus baccata</i> (L.) Borkh.  | Rosa  | t      | ar  | nat | 7  |      | sc    | acc  | hybrid   |                   |     |      |     | this study                                |
| <i>Malus x dasycarpa</i> Borkh.   | Rosa  | t s    | ar  | nat | 11 |      | sc    | del  | anec     |                   | 14  |      |     | Dostálek in F3                            |
| <i>Malus domestica</i> Borkh.   | Rosa  | t s    | ar  | nat | 11 |      | sc    | del  | anec     | 2 <sup>31</sup>   |     |      |     | Dostálek in F3                            |
| <i>Malus fusca</i> (Raf.) C. K. Schneid.                                | Rosa  | t      | neo | cas | 4  | 2004 | s     | del  | AmN      |                   |     |      |     | Řehořek in A8                             |
| <i>Malus pumila</i> Mill.   | Rosa  | s      | neo | cas | 4  | 1974 | sc    | del  | anec     |                   |     |      | yes | this study                                |
| <i>Malva neglecta</i> Wallr.  | Malv  | a b    | ar  | cas | 1  |      | r     | acc  | hybrid   |                   |     |      |     | Slavík in F3                              |
| <i>Malva x adulterina</i> Wallr.  | Malv  | a b    | ar  | cas | 1  |      | v     | acc  | M        | 12 <sup>245</sup> | 15  |      |     | Slavík in F3                              |
| <i>Malva parviflora</i> L.  | Malv  | b pe   | ar  | nat | 13 |      | c     | acc  | M        |                   |     |      |     | Slavík in F3                              |
| <i>Malva pusilla</i> Sm.  | Malv  | a      | neo | cas | 1  | 1957 | v     | acc  | M        |                   |     |      |     | Slavík in F3                              |
| <i>Malva sylvestris</i> L. var. <i>syvestris</i>                        | Malv  | b pe   | ar  | nat | 17 |      | sc    | acc  | E As     |                   | 8   |      |     | Slavík in F3                              |
| <i>Malva sylvestris</i> var. <i>mauritiana</i> (L.) Boiss.              | Malv  | b pe   | ar  | cas | 4  |      | r     | del  | M        |                   | 8   |      |     | Slavík in F3                              |
| <i>Malva verticillata</i> L. var. <i>verticillata</i>                   | Malv  | a b pe | neo | cas | 4  |      | r     | del  | anec     |                   |     |      |     | Slavík in F3                              |
| <i>Malva verticillata</i> var. <i>crispa</i> L.                         | Malv  | a      | neo | cas | 4  | 1853 | r     | del  | As       |                   | 7   |      |     | Slavík in F3                              |
| <i>Malva x zoernigii</i> B. Fleisch.                                    | Malv  | ?      | ar  | cas | 1  |      | v     | acc  | hybrid   |                   |     |      |     | Slavík in F3                              |
| <i>Marrubium x paniculatum</i> Desr.                                    | Lami  | pe     | ar  | cas | 1  |      | r     | acc  | hybrid   |                   |     |      |     | Hrouda in F6                              |
| <i>Marrubium peregrinum</i> L.  | Lami  | pe     | ar  | nat | 6  |      | r     | acc  | E M      |                   | 2   |      |     | Hrouda in F6, Danihelka in A2             |
| <i>Marrubium vulgare</i> L.   | Lami  | pe     | ar  | cas | 2  |      | r     | acc  | M        |                   | 4   |      |     | Hrouda in F6                              |
| <i>Matricaria chamomilla</i> L.   | Aster | a      | ar  | nat | 13 |      | c     | acc  | E        |                   |     |      |     | Kubát in F7                               |
| <i>Matricaria discoides</i> DC.   | Aster | a      | neo | nat | 13 | 1853 | c     | acc  | As       | 4 <sup>88</sup>   | 14  | yes  |     | Kubát in F7                               |
| <i>Matricaria chamomilla</i> x <i>Tripleurospermum inodorum</i>         | Aster | a      | ar  | cas | 1  |      | s+v   | acc  | hybrid   |                   |     |      |     | Rohlena 1930, Kubát in F7                 |
| <i>Matteuccia struthiopteris</i> (L.) Tbd.                              | Onoc  | pe f   | neo | nat | 11 | 1820 | r     | del  | E As AmN |                   | 6   |      |     | Hendrych 1984, Slavík in F1               |
| <i>Matthiola incana</i> (L.) W. T. Aiton subsp. <i>incana</i>           | Bras  | a b    | neo | cas | 4  | 1877 | r     | del  | M        |                   |     |      |     | Dvořák in F3                              |

| Taxon   | Fam   | LH     | Res | Inv | PG | Ist  | Abund | Path | Origin      | Cover             | Hab | IEc | IEi | Source  |
|---|-------|--------|-----|-----|----|------|-------|------|-------------|-------------------|-----|-----|-----|---|
| <i>Mathiola longipetala</i> (Vent.) DC. subsp. <i>longipetala</i>       | Bras  | a      | neo | cas | 1  | 1924 | v     | acc  | E M         |                   |     |     |     | Dvořák in F3                                    |
| <i>Mathiola longipetala</i> subsp. <i>bicornis</i> (Sm.) P. W. Ball     | Bras  | a      | neo | cas | 4  | 1952 | r     | del  | M           |                   |     |     |     | Dvořák in F3                                    |
| <i>Mecomonis cambrica</i> (L.) R. Vig.                                  | Papa  | pe     | neo | cas | 4  | 2000 | s     | del  | E           |                   |     |     |     | Kubát in Hánel et al. 2002, Hadinec et al. 2003 |
| <i>Medicago arabica</i> (L.) Huds.                                      | Faba  | a      | neo | cas | 1  | 1936 | r     | acc  | M           |                   |     |     |     | Kirschner & Štěpánek in F4                      |
| <i>Medicago disciformis</i> DC.   | Faba  | a      | neo | cas | 1  | 1963 | v     | acc  | M           |                   |     |     |     | Kirschner & Štěpánek in F4                      |
| <i>Medicago orbicularis</i> (L.) Bartal.                                | Faba  | a      | neo | cas | 1  |      | v     | acc  | M           |                   |     |     |     | Kirschner & Štěpánek in F4                      |
| <i>Medicago polymorpha</i> L.   | Faba  | a      | neo | cas | 1  | 1880 | r     | acc  | M           |                   |     |     |     | Kirschner & Štěpánek in F4                      |
| <i>Medicago rigida</i> (L.) All.  | Faba  | a      | neo | cas | 1  | 1923 | v     | acc  | M           |                   |     |     |     | Kirschner & Štěpánek in F4                      |
| <i>Medicago sativa</i> L.   | Faba  | pe     | neo | nat | 17 | 1819 | c     | del  | anec        |                   | 18  | yes |     | Kirschner & Štěpánek in F4                      |
| <i>Medicago varia</i> Martyn  | Faba  | pe     | neo | nat | 17 |      | sc    | del  | hybrid      |                   |     |     |     | Kirschner & Štěpánek in F4                      |
| <i>Megathyrus bivonitensis</i> (Brullo et al.) Verloove                 | Poac  | a      | neo | cas | 1  | 1961 | s+v   | acc  | M           | 2 <sup>153</sup>  | 12  |     |     | Dvořák & Kühn 1966                              |
| <i>Melanopyrum arvense</i> L.   | Orob  | a p    | ar  | nat | 6  |      | sc    | acc  | M           |                   |     |     |     | Štech in F6                                     |
| <i>Melanopyrum barbatum</i> Willd. subsp. <i>barbatum</i>               | Orob  | a p    | neo | cas | 1  | 1893 | v     | acc  | E           |                   |     |     |     | Štech in F6                                     |
| <i>Melica altissima</i> L.  | Poac  | pe     | neo | nat | 11 | 1955 | r     | del  | E As        |                   |     |     |     | Kubát et al. 2002                               |
| <i>Melilotus albus</i> Medik.   | Faba  | b a    | ar  | nat | 17 |      | c     | del  | M As        | 13 <sup>274</sup> | 26  |     |     | Hašková, Kirschner, Štěpánek in F4              |
| <i>Melilotus indicus</i> (L.) All.                                      | Faba  | a      | neo | cas | 1  | 1913 | r     | acc  | M As        |                   |     |     |     | Hašková, Kirschner, Štěpánek in F4              |
| <i>Melilotus siculus</i> (Turra) Steud.                                 | Faba  | a      | neo | cas | 1  | 1929 | v     | acc  | M           | 8 <sup>255</sup>  | 24  |     |     | Hašková, Kirschner, Štěpánek in F4              |
| <i>Melilotus officinalis</i> (L.) Lam.                                  | Faba  | b a    | ar  | nat | 17 |      | c     | del  | M As        |                   |     |     |     | Hašková, Kirschner, Štěpánek in F4              |
| <i>Melilotus sulcatus</i> Desf.   | Faba  | a      | neo | cas | 1  | 1929 | v     | acc  | M           |                   |     |     |     | Hašková, Kirschner, Štěpánek in F4              |
| <i>Melilotus wolgicus</i> Poir.   | Faba  | b a    | neo | cas | 1  | 1963 | v     | acc  | E           |                   | 3   |     |     | Hašková, Kirschner, Štěpánek in F4              |
| <i>Melissa officinalis</i> (L.) Lam. subsp. <i>officinalis</i>          | Lami  | pe     | neo | nat | 12 | 1872 | sc    | del  | M           |                   |     |     |     | Tomšovic in F6                                  |
| <i>Mentha xgracilis</i> Sole  | Lami  | pe     | neo | cas | 4  | 1855 | r     | del  | anec        |                   |     |     |     | Štěpánek 1998b, Štěpánek in F6                  |
| <i>Mentha xnilitica</i> Jacq.   | Lami  | pe     | neo | nat | 9  | 1976 | r     | del  | hybrid      |                   |     |     |     | Štěpánek 1998b, Štěpánek in F6                  |
| <i>Mentha xpipperita</i> L. nothosubsp. <i>pipperita</i>                | Lami  | pe     | neo | cas | 4  | 1840 | sc    | del  | anec        |                   | 7   |     |     | Štěpánek 1998b, Štěpánek in F6                  |
| <i>Mentha xroundifolia</i> (L.) Huds.                                   | Lami  | pe     | neo | nat | 9  | 1846 | c     | del  | anec        |                   | 8   |     |     | Štěpánek 1998b, Štěpánek in F6                  |
| <i>Mentha spicata</i> L. subsp. <i>spicata</i>                          | Lami  | pe     | neo | cas | 4  | 1818 | r     | del  | E           |                   |     |     |     | Štěpánek 1998a, Štěpánek in F6                  |
| <i>Mentha spicata</i> s. lat. [taxonomically unclear cultivated clones] | Lami  | pe     | neo | cas | 4  | 1844 | r     | del  | anec        |                   |     |     |     | Štěpánek 1998a, Štěpánek in F6                  |
| <i>Mercurialis annua</i> L.   | Euph  | a      | ar  | nat | 13 |      | c     | acc  | M           | 6 <sup>113</sup>  | 7   |     |     | Kubát in F3                                     |
| <i>Mertensia sibirica</i> (L.) G. Don                                   | Bora  | pe     | neo | cas | 4  |      | r     | del  | As          |                   |     |     |     | Křisa in F6                                     |
| <i>Mespilus germanica</i> L.  | Rosa  | t s    | ar  | cas | 4  |      | r     | del  | M           |                   | 6   |     |     | Kovanda in F3                                   |
| <i>Microrrhinum litoreale</i> (Willd.) Speta                            | Plant | a      | neo | cas | 1  | 1994 | r     | acc  | M           |                   |     |     |     | Mikoláš 1997, Grulich in F6                     |
| <i>Microrrhinum minus</i> (L.) Fourr.                                   | Plant | a      | ar  | nat | 7  |      | sc    | acc  | E M         | 1 <sup>157</sup>  | 7   |     |     | Grulich in F6                                   |
| <i>Mimulus guttatus</i> DC.   | Phry  | pe     | neo | nat | 15 | 1853 | sc    | del  | AmN         |                   | 4   |     |     | Slavík in F6                                    |
| <i>Mimulus moschatus</i> Lindl.   | Phry  | pe     | neo | nat | 9  | 1868 | r     | del  | AmN         |                   | 5   |     |     | Slavík in F6, Hadinec in A1                     |
| <i>Mirabilis jalapa</i> L.  | Nyct  | a (pe) | neo | cas | 4  |      | r     | del  | AmN & C & S |                   |     | yes |     | Skaličský in F2                                 |
| <i>Miscanthus sacchariflorus</i> (Maxim.) Hack.                         | Poac  | pe     | neo | cas | 4  | 2003 | r     | del  | As          |                   |     |     |     | this study                                      |
| <i>Miscanthus sinensis</i> Andersson                                    | Poac  | pe     | neo | cas | 4  |      | r     | del  | As          |                   |     |     |     | Kubát et al. 2002                               |
| <i>Misopates oronitum</i> (L.) Rafin.                                   | Plant | a      | ar  | cas | 2  |      | r     | acc  | M           |                   | 6   |     |     | Grulich in F6, Danihelka in A1                  |
| <i>Monolepis nuttalliana</i> (Schult.) Greene                           | Amara | a      | neo | cas | 1  | 1927 | v     | acc  | As AmN      |                   |     |     |     | Dostálek et al. in F2                           |

| Taxon   | Fam   | LH | Res | Inv | PG | Ist  | Abund | Path | Origin | Cover              | Hab | IEc | IEi | Source                                      |
|---|-------|----|-----|-----|----|------|-------|------|--------|--------------------|-----|-----|-----|---|
| <i>Morus alba</i> L.  | Mora  | t  | neo | cas | 4  |      | r     | del  | As     |                    |     |     |     | this study                                  |
| <i>Muscari armeniacum</i> Baker   | Aspa  | pe | neo | cas | 4  |      | sc    | del  | E      |                    |     |     |     | this study                                  |
| <i>Muscari botryoides</i> (L.) Mill.  | Aspa  | pe | ar  | cas | 4  |      | sc    | del  | E      |                    | 9   |     |     | Hrouda in F8                                |
| <i>Myagrum perfoliatum</i> L.   | Bras  | a  | neo | cas | 1  | 1855 | r     | acc  | M      | 2 <sup>1,343</sup> |     | yes |     | Kirschner & Sutory in F3                    |
| <i>Myosotis arvensis</i> (L.) Hill subsp. <i>arvensis</i>                           | Bora  | a  | ar  | nat | 13 |      | c     | acc  | M      |                    | 35  |     |     | Štěpánková in F6                            |
| <i>Myosotis skrjabiniae</i> Domin   | Bora  | a  | ar  | cas | 1  |      | s+v   | acc  | hybrid |                    |     |     |     | Štěpánková in F6                            |
| <i>Myosotis xpsuedohispida</i> Domin  | Bora  | a  | ar  | cas | 1  |      | r     | acc  | hybrid |                    |     |     |     | Štěpánková in F6                            |
| <i>Myrrhis odorata</i> (L.) Scop.   | Api   | pe | ar  | nat | 9  |      | la    | del  | E      |                    | 8   | yes |     | Lhotská 1975, Slavík in F5                  |
| <i>Narcissus poeticus</i> L.  | Amary | pe | neo | cas | 4  | 1867 | r     | del  | M      |                    | 8   |     |     | Bělohávková in F8                           |
| <i>Narcissus pseudonarcissus</i> L.   | Amary | pe | neo | cas | 4  | 1867 | r     | del  | M      |                    | 8   | yes |     | Bělohávková in F8                           |
| <i>Nemophila menziesii</i> Hook. et Arn.  | Bora  | a  | neo | cas | 4  |      | r     | del  | AmN    |                    |     |     |     | Kubát et al. 2002                           |
| <i>Nepeta cataria</i> L.  | Lami  | pe | ar  | nat | 6  |      | sc    | acc  | E As   |                    | 6   |     |     | Štěpánek in F6                              |
| <i>Nepeta xfiassentii</i> Stearn  | Lami  | pe | neo | nat | 11 |      | r     | del  | anec   |                    |     |     |     | Štěpánek in F6                              |
| <i>Nepeta grandiflora</i> M. Bieb.  | Lami  | pe | neo | cas | 4  | 1900 | r     | del  | E      |                    |     |     |     | Holub 1991, Štěpánek in F6                  |
| <i>Nepeta racemosa</i> Lam.   | Lami  | pe | neo | nat | 11 |      | r     | del  | E M    |                    | 5   |     |     | Štěpánek in F6                              |
| <i>Nestia paniculata</i> (L.) Desv. subsp. <i>paniculata</i>                        | Bras  | a  | ar  | nat | 13 |      | c     | acc  | M      | 3 <sup>288</sup>   | 5   |     |     | Dvořáková in F3                             |
| <i>Nicotiana arvensis</i> L.  | Sola  | a  | neo | cas | 4  | 1853 | r     | del  | AmS    |                    | 2   |     |     | Tomšovic in F6                              |
| <i>Nicotiana glauca</i> Link et Otto  | Sola  | a  | neo | cas | 4  |      | r     | del  | AmS    |                    |     |     |     | Bělohávková, Tomšovic in F6                 |
| <i>Nicotiana glauca</i> L.  | Sola  | a  | neo | cas | 4  | 17th | r     | del  | anec   |                    |     |     |     | Čulíková 1995a, Bělohávková, Tomšovic in F6 |
| <i>Nicotiana glauca</i> L.  | Sola  | a  | neo | cas | 4  | 1891 | r     | del  | anec   |                    |     |     |     | Bělohávková, Tomšovic in F6                 |
| <i>Nicotiana tabacum</i> L.   | Sola  | a  | neo | cas | 4  |      | r     | del  | anec   |                    |     |     |     | Bělohávková, Tomšovic in F6                 |
| <i>Nigella arvensis</i> L.  | Ranu  | a  | ar  | cas | 2  |      | r     | acc  | M      |                    | 3   |     |     | Chrtková in F1                              |
| <i>Nigella damascena</i> L.   | Ranu  | a  | neo | cas | 4  | 1874 | r     | del  | M      |                    | 1   |     |     | Chrtková in F1                              |
| <i>Nigella sativa</i> L.  | Ranu  | a  | neo | cas | 4  |      | r     | del  | M As   |                    | 1   |     |     | Chrtková in F1                              |
| <i>Nocca kovatsii</i> (Heuff.) F. K. Mey.   | Bras  | pe | neo | cas | 1  |      | s     | acc  | E      |                    |     |     |     | Dvořáková in F3                             |
| <i>Nonna lutea</i> (Desr.) DC.  | Bora  | a  | neo | nat | 7  |      | r     | acc  | As     |                    |     |     |     | Sutory in F6                                |
| <i>Nonna rosea</i> (M. Bieb.) Link  | Bora  | a  | neo | cas | 1  | 1872 | r     | acc  | E      |                    |     |     |     | Sutory in F6                                |
| <i>Ocimum basilicum</i> L.  | Lami  | a  | ar  | cas | 4  |      | r     | del  | As     |                    |     |     |     | Tomšovic in F6                              |
| <i>Oenothera acutifolia</i> Rostanski   | Onag  | b  | neo | cas | 1  | 1975 | r     | acc  | hybrid |                    |     |     |     | Jehlik in F5                                |
| <i>Oenothera albipercurva</i> Hudziok   | Onag  | b  | neo | cas | 1  | 1899 | r     | acc  | hybrid |                    |     |     |     | Jehlik in F5                                |
| <i>Oenothera amplexicaulis</i> Focke  | Onag  | b  | neo | cas | 2  | 1848 | r     | acc  | hybrid |                    |     |     |     | Jehlik in F5                                |
| <i>Oenothera biennis</i> L.   | Onag  | b  | neo | nat | 13 | 1831 | c     | acc  | E As   | 3 <sup>85</sup>    |     | yes |     | Jehlik & Rostanski 1980, Jehlik in F5       |
| <i>Oenothera canovirens</i> E. S. Steele  | Onag  | b  | neo | cas | 1  | 1953 | r     | acc  | AmN    |                    |     |     |     | Jehlik in F5                                |
| <i>Oenothera coronifera</i> Renner  | Onag  | b  | neo | cas | 1  | 2001 | s     | acc  | hybrid |                    |     |     |     | Pyšek et al. 2002, Mihułka et al. 2003      |
| <i>Oenothera depressa</i> Greene  | Onag  | b  | neo | nat | 8  | 1936 | r     | acc  | AmN    |                    |     |     |     | Jehlik in F5                                |
| <i>Oenothera fallax</i> Renner  | Onag  | b  | neo | nat | 8  | 1961 | sc    | acc  | hybrid |                    |     |     |     | Roubal 1972, Jehlik in F5                   |
| <i>Oenothera flava</i> subsp. <i>taraxacoides</i> (Wootton et Standl.) W. L. Wagner | Onag  | pe | neo | cas | 4  | 2000 | s     | del  | AmN    |                    |     |     |     | Chrtek & Škočdoplová 2001, Procháčka in A1  |
| <i>Oenothera glacioviana</i> Micheli  | Onag  | b  | neo | nat | 12 | 1890 | sc    | del  | AmN    |                    |     |     |     | Jehlik in F5                                |
| <i>Oenothera hoelscheri</i> Rostanski   | Onag  | b  | neo | cas | 1  | 1975 | r     | acc  | hybrid |                    |     |     |     | Pyšek 1973, Jehlik in F5                    |
| <i>Oenothera isleri</i> Rostanski   | Onag  | b  | neo | nat | 8  | 1949 | r     | acc  | hybrid |                    |     |     |     | Jehlik in F5                                |

| Taxon  | Fam   | LH     | Res | Inv | PG | Ist   | Abund | Path | Origin       | Cover            | Hab | IEc | IEs | Source  |
|--|-------|--------|-----|-----|----|-------|-------|------|--------------|------------------|-----|-----|-----|---|
| <i>Oenothera macrorcarpa</i> Nutt.                             | Onag  | pe     | neo | cas | 4  | 1913  | r     | del  | Amin         |                  |     |     |     | Jehlik in F5  |
| <i>Oenothera moravica</i> V. Jehlik et Rostański               | Onag  | b      | neo | cas | 1  | 1985  | r     | acc  | hybrid       |                  |     |     |     | Jehlik in F5  |
| <i>Oenothera oakesiana</i> (A. Gray) S. Watson et J. M. Coult. | Onag  | b      | neo | cas | 1  | 1962  | s+v   | acc  | hybrid       |                  |     |     |     | Jehlik in F5  |
| <i>Oenothera parviflora</i> L.                                 | Onag  | b      | neo | cas | 1  | 1914  | r     | acc  | Amin         |                  |     |     |     | Jehlik in F5  |
| <i>Oenothera punctulata</i> Rostański et Gutte                 | Onag  | b      | neo | cas | 1  | 1972  | s     | acc  | hybrid       |                  |     |     |     | Jehlik in F5  |
| <i>Oenothera pycnocarpa</i> G. F. Aik. et Bartlett             | Onag  | a,b    | neo | nat | 8  | 1960  | r     | acc  | Amin         |                  |     |     |     | Jehlik in F5  |
| <i>Oenothera rubricaulis</i> Kleb.                             | Onag  | b      | neo | nat | 8  | 1914  | sc    | acc  | hybrid       |                  |     |     |     | Roubal 1968, Jehlik in F5                                 |
| <i>Oenothera stricta</i> Link                                  | Onag  | a,b    | neo | cas | 1  | 1825  | r     | acc  | Amin         |                  |     |     |     | Jehlik in F5, Pyšek et al. 2002, Mihulka et al. 2003      |
| <i>Oenothera subterminalis</i> R. R. Gates                     | Onag  | b      | neo | cas | 1  | 1967  | r     | acc  | Amin         |                  |     |     |     | Jehlik in F5  |
| <i>Oenothera tetragona</i> Roth                                | Onag  | pe     | neo | cas | 1  | 1884  | v     | acc  | Amin         |                  |     |     |     | Jehlik in F5  |
| <i>Oenothera victorinii</i> R. R. Gates et Catches.            | Onag  | b      | neo | cas | 1  | 1973  | r     | acc  | Amin         |                  |     |     |     | Jehlik in F5  |
| <i>Omphalodes verna</i> Moench                                 | Bora  | pe     | neo | cas | 4  |       | r     | del  | E M          |                  |     |     |     | Sutory in F6  |
| <i>Onobrychis vicifolia</i> Scop.                              | Faba  | pe     | neo | nat | 17 | 1852  | sc    | del  | E M          | 2 <sup>08</sup>  | 9   |     |     | Chrtková in F4  |
| <i>Onopordium acanthium</i> L.                                 | Aster | b      | ar  | nat | 13 |       | la    | acc  | E M          | 12 <sup>50</sup> | 10  | yes |     | Sutory in F7  |
| <i>Onopordium xbeckianum</i> John                              | Aster | b      | neo | cas | 1  | 1906  | s+v   | acc  | hybrid       |                  |     |     |     | Sutory 2001   |
| <i>Opuntia phaeoacantha</i> Engelm.                            | Cact  | pe     | neo | nat | 11 |       | r     | del  | Amin         |                  |     |     |     | Kubát et al. 2002   |
| <i>Opuntia polyacantha</i> Haw.                                | Cact  | pe     | neo | cas | 4  | ca    | r     | del  | Amin         |                  |     |     |     | Hadinec & Kubát in A3                                     |
| <i>Origanum majorana</i> L.                                    | Lami  | a,b    | ar  | cas | 4  | 1990s | r     | del  | M            |                  |     |     |     | Tomšovic in F6  |
| <i>Ornithogalum nutans</i> L.                                  | Aspa  | pe     | neo | nat | 11 | 1809  | r     | del  | E M          |                  | 4   |     |     | Hrouda in F8  |
| <i>Ornithopus compressus</i> L.                                | Faba  | a      | neo | cas | 1  | 1937  | v     | acc  | M            |                  |     |     |     | Chrtková in F4  |
| <i>Ornithopus sativus</i> Brot. subsp. <i>sativus</i>          | Faba  | a      | neo | cas | 4  | 1889  | r     | del  | M            |                  |     |     |     | Chrtková in F4, Grulich in A9                             |
| <i>Orobanche erenata</i> Forssk.                               | Orob  | b pe p | neo | cas | 1  | 1896  | v     | acc  | M            |                  |     |     |     | Zázvorka in F6  |
| <i>Orobanche gracilis</i> Sm.                                  | Orob  | b pe p | neo | cas | 2  | 1878  | v     | acc  | E M          |                  |     |     |     | Zázvorka in F6  |
| <i>Orobanche hederac</i> Duby                                  | Orob  | b pe p | neo | nat | 11 | 1945  | r     | del  | E M          |                  |     |     |     | Zázvorka in F6  |
| <i>Orobanche lucorum</i> F. W. Schultz                         | Orob  | b pe p | neo | cas | 4  |       | s     | del  | E            |                  |     |     |     | Zázvorka in F6  |
| <i>Orobanche minor</i> Sm.                                     | Orob  | b pe p | ar  | nat | 8  |       | r     | acc  | E M          |                  | 3   |     |     | Kropáč 1997, Jehlik 1998a, Zázvorka in F6                 |
| <i>Othocallis amoena</i> (L.) Trávn.                           | Aspa  | pe     | neo | cas | 4  | 1809  | r     | del  | As           |                  |     |     |     | Trávníček in F8   |
| <i>Othocallis sibirica</i> (Haw.) Speta                        | Aspa  | pe     | neo | cas | 4  | 1867  | sc    | del  | E            |                  | 4   |     |     | Trávníček in F8   |
| <i>Oxalis corniculata</i> L. var. <i>corniculata</i>           | Oxal  | a,b pe | neo | inv | 14 | 1852  | sc    | acc  | M            |                  | 9   |     |     | Holub in F5   |
| <i>Oxalis corniculata</i> var. <i>repens</i> (Thumb.) Zucc.    | Oxal  | a,b pe | neo | cas | 4  |       | r     | del  | As Au        |                  |     |     |     | Holub in F5   |
| <i>Oxalis debilis</i> Kunth                                    | Oxal  | pe     | neo | cas | 1  | 1963  | s     | acc  | Amin         |                  |     |     |     | Holub & Holubičková 1980, Jehlik 1995, 1998a, Holub in F5 |
| <i>Oxalis dillemii</i> Jacq.                                   | Oxal  | a,b pe | neo | inv | 14 |       | sc    | acc  | Amin         |                  | 5   |     |     | Holub in F5   |
| <i>Oxalis latifolia</i> Kunth                                  | Oxal  | pe     | neo | cas | 1  | 1963  | r     | acc  | Amin & C & S |                  |     |     |     | Jehlik 1995, 1998a, Holub in F5                           |
| <i>Oxalis pes-caprae</i> L.                                    | Oxal  | pe     | neo | cas | 4  | 1961  | r     | del  | Af           |                  |     | yes |     | Dvořák & Kůhln 1966                                       |
| <i>Oxalis stricta</i> L.                                       | Oxal  | pe     | neo | nat | 13 | 1852  | sc    | acc  | Amin         | 1 <sup>61</sup>  | 14  |     |     | Holub in F5   |
| <i>Oxybaphus nycitagineus</i> (Michx.) Sweet                   | Nyct  | pe     | neo | nat | 7  | 1843  | r     | acc  | Amin         |                  | 2   |     |     | Skalický in F2, Jehlik 1998a                              |



| Taxon  | Fam   | LH   | Res | Inv | PG | Ist   | Abund | Path | Origin | Cover             | Hab | IEc | IEi | Source                                     |
|--|-------|------|-----|-----|----|-------|-------|------|--------|-------------------|-----|-----|-----|--|
| <i>Paeonia lactiflora</i> Pall.  | Paeo  | pe   | neo | cas | 4  | 2011  | r     | del  | As     |                   |     |     |     | this study                                 |
| <i>Paeonia officinalis</i> L.  | Paeo  | pe   | ar  | cas | 4  |       | r     | del  | M      |                   |     |     |     | Pyšek et al. 2002                          |
| <i>Panicum capillare</i> L. subsp. <i>capillare</i>                    | Poac  | a    | neo | nat | 11 | 1940  | sc    | del  | AmN    |                   | 2   |     |     | Jehlík 1998a, Kubát et al. 2002            |
| <i>Panicum capillare</i> subsp. <i>barbiprvinatatum</i> (Nash) Tzvelev | Poac  | a    | neo | cas | 1  | 1968  | r     | acc  | AmN    |                   |     |     |     | Jehlík 1998a, Kubát et al. 2002            |
| <i>Panicum dichotomiflorum</i> Michx.                                  | Poac  | a    | neo | cas | 1  | 1970  | sc    | acc  | AmN    |                   | 3   |     |     | Jehlík 1998a, Kubát et al. 2002            |
| <i>Panicum miliaceum</i> L. subsp. <i>miliaceum</i>                    | Poac  | a    | ar  | cas | 4  |       | r     | del  | As     |                   |     |     |     | Kubát et al. 2002                          |
| <i>Panicum miliaceum</i> subsp. <i>agrícola</i> H. Scholz et Mikoláš   | Poac  | a    | neo | nat | 8  | 1975  | la    | acc  | As     |                   |     |     |     | Jehlík 1998a, Kubát et al. 2002            |
| <i>Panicum miliaceum</i> subsp. <i>rudemale</i> (Kitag.) Tzvelev       | Poac  | a    | neo | nat | 8  | 1823  | sc    | acc  | As     |                   |     |     |     | Jehlík 1998a, Kubát et al. 2002            |
| <i>Papaver argemone</i> L.   | Papa  | a    | ar  | nat | 13 |       | c     | acc  | E M    | 2 <sup>1,26</sup> | 6   |     |     | Kubát in Fl                                |
| <i>Papaver atlanticum</i> subsp. <i>mesatlanticum</i> (Maire) Kadereit | Papa  | pe   | neo | cas | 4  | 2001  | r     | del  | M      |                   |     |     |     | Pyšek et al. 2002                          |
| <i>Papaver croceum</i> Ledeb.  | Papa  | pe   | neo | cas | 4  |       | r     | del  | As     |                   |     |     |     | Kubát in Fl                                |
| <i>Papaver dubium</i> L.   | Papa  | a    | ar  | nat | 7  |       | sc    | acc  | M      | 2 <sup>51</sup>   | 12  |     |     | Kubát in Fl                                |
| <i>Papaver hybridum</i> L.   | Papa  | a    | neo | cas | 1  | 1865  | v     | acc  | E M    |                   |     |     |     | Kubát in Fl                                |
| <i>Papaver lecoqii</i> Lamotte   | Papa  | a    | ar  | nat | 7  |       | r     | acc  | E      |                   | 1   |     |     | Kubát in Fl                                |
| <i>Papaver pseudo-orientale</i> (Fedde) Medw.                          | Papa  | pe   | neo | cas | 4  |       | r     | del  | M      | 4 <sup>7,17</sup> | 9   |     |     | Kubát in Fl                                |
| <i>Papaver rhoas</i> L.  | Papa  | a    | ar  | nat | 13 |       | c     | acc  | M      |                   | 3   |     |     | Kubát in Fl                                |
| <i>Papaver somniferum</i> L.   | Papa  | a    | ar  | cas | 5  |       | sc    | del  | M      |                   |     |     |     | Kubát in Fl                                |
| <i>Parapholis incurva</i> (L.) C. E. Hubb.                             | Poac  | a    | neo | cas | 1  | 1961  | s+v   | acc  | E M    |                   |     |     |     | yes  |
| <i>Parentucellia viscosa</i> (L.) Caruel                               | Orob  | a p  | neo | cas | 1  | 1882  | v     | acc  | M      |                   |     |     |     | Dvořák & Kühn 1966                         |
| <i>Parietaria judaica</i> L.   | Urti  | a pe | neo | cas | 1  |       | v     | acc  | M      |                   |     |     |     | Hrouda in F6                               |
| <i>Parietaria officinalis</i> L.                                       | Urti  | pe   | ar  | nat | 7  |       | sc    | acc  | M      |                   |     |     |     | Chrtěk in F1                               |
| <i>Parietaria pennisylvanica</i> Willd.                                | Urti  | a    | neo | cas | 1  | 2000  | r     | acc  | AmN    |                   | 7   |     |     | Chrtěk in F1                               |
| <i>Parthenocissus inserta</i> (A. Kern.) Fritsch                       | Vita  | s    | neo | inv | 18 | 1900  | la    | del  | AmN    |                   | 4   |     |     | Kubát in F2, Pyšek et al. 2002             |
| <i>Parthenocissus quinquefolia</i> (L.) Planch.                        | Vita  | s    | neo | cas | 1  |       | sc    | del  | AmN    |                   | 5   |     |     | Koblížek in F5                             |
| <i>Pastinaca sativa</i> subsp. <i>urens</i> (Godr.) Čelak.             | Api   | b pe | ar  | nat | 7  |       | sc    | acc  | M      |                   | 14  |     |     | Koblížek in F5                             |
| <i>Paulownia tomentosa</i> (Thumb.) Steud.                             | Paul  | t    | neo | cas | 4  |       | r     | del  | As     |                   | 2   |     |     | Hrouda in F5                               |
| <i>Peltaria alliata</i> Jacq.  | Bras  | pe   | neo | cas | 1  | 1993  | s     | acc  | E M    |                   |     |     |     | Skalická in F6                             |
| <i>Pennisetum alopecuroides</i> (L.) Spreng.                           | Poac  | pe   | neo | cas | 4  | 2002  | s     | del  | As Au  |                   |     |     |     | Mandák 1995, Kubát et al. 2002             |
| <i>Pentaglottis sempervirens</i> (L.) L. W. Bailey                     | Bora  | pe   | neo | cas | 4  | 1989  | s     | del  | E      |                   |     |     |     | this study                                 |
| <i>Pentaglottis orientalis</i> (L.) Spach                              | Poly  | a    | neo | cas | 4  |       | r     | del  | As     |                   |     |     |     | Holub 1996, Zlámalík 1996, Křísa in F6     |
| <i>Persicaria pennisylvanica</i> (L.) M. Gómez                         | Poly  | a    | neo | cas | 1  | 1968  | r     | acc  | As     |                   |     |     |     | Chrtěk in F2                               |
| <i>Petasites japonicus</i> subsp. <i>giganteus</i> Kitam.              | Aster | pe   | neo | cas | 4  | 1900s | r     | del  | As     |                   |     |     |     | Jehlík 1998a, Chrtěk in Kubát et al. 2002, |
| <i>Petroselinum crispum</i> (Mill.) Fuss                               | Api   | b    | ar  | cas | 4  |       | sc    | del  | M      |                   |     |     |     | Kubát & Jehlík 2003                        |
| <i>Pennia xatkinsiana</i> (Sweet) W. H. Baxter                         | Sola  | a    | neo | cas | 4  |       | r     | del  | ane    |                   | 2   |     |     | Stech in F7                                |
| <i>Peuucedanum altissimum</i> (Mill.) Thell.                           | Api   | pe   | neo | cas | 1  | 1960  | v     | acc  | E      |                   |     |     |     | Tomšovic in F5                             |
| <i>Peuucedanum austriacum</i> (Jacq.) W. D. J. Koch                    | Api   | pe   | neo | cas | 1  | 1837  | v     | acc  | E      |                   |     |     |     | Bělohávková in F6                          |
| <i>Peuucedanum ostruthium</i> (L.) W. D. J. Koch                       | Api   | pe   | neo | nat | 9  | 1809  | la    | del  | E      |                   |     |     |     | Grulich in F5                              |
| <i>Phacelia campanularia</i> A. Gray                                   | Bora  | a    | neo | cas | 4  |       | r     | del  | AmN    |                   | 4   |     |     | yes+                                       |

| Taxon   | Fam   | LH     | Res | Inv | PG | Ist  | Abund | Path | Origin  | Cover            | Hab | IEc  | IEu | Source   |
|---|-------|--------|-----|-----|----|------|-------|------|---------|------------------|-----|------|-----|--|
| <i>Phacelia ciliata</i> Benth.                                      | Bora  | a      | neo | cas | 4  |      | r     | del  | AmN     |                  |     |      |     | Křisa in F6  |
| <i>Phacelia tanacetifolia</i> Benth.                                | Bora  | a      | neo | cas | 4  | 1891 | r     | del  | AmN     |                  | 3   |      |     | Křisa in F6  |
| <i>Phalaris arundinacea</i> "Pieta"                                 | Poac  | pe     | neo | cas | 4  |      | sc    | del  | anec    |                  |     |      |     | Kubát et al. 2002                                  |
| <i>Phalaris brachystachys</i> Link                                  | Poac  | a      | neo | cas | 1  | 1961 | s+v   | acc  | M       |                  |     |      |     | Dvořák & Kühn 1966, Dostál 1989, Kubát et al. 2002 |
| <i>Phalaris canariensis</i> L.                                      | Poac  | a      | neo | cas | 4  | 1867 | sc    | del  | M       |                  |     |      |     | Dvořák & Kühn 1966, Dostál 1989, Kubát et al. 2002 |
| <i>Phalaris coerulescens</i> Desf.                                  | Poac  | pe     | neo | cas | 1  |      | r     | acc  | M       |                  |     |      |     | Dostál 1989, Kubát et al. 2002                     |
| <i>Phalaris minor</i> Retz.   | Poac  | a      | neo | cas | 1  | 1961 | s+v   | acc  | M Af    |                  |     |      |     | Dvořák & Kühn 1966, Dostál 1989, Kubát et al. 2002 |
| <i>Phalaris paradoxa</i> L.   | Poac  | a      | neo | cas | 1  | 1961 | s+v   | acc  | M       |                  |     |      |     | Dvořák & Kühn 1966, Dostál 1989, Kubát et al. 2002 |
| <i>Phaseolus coccineus</i> L.                                       | Faba  | a (pe) | neo | cas | 4  |      | s     | del  | AmN     |                  |     |      |     | Chrtková in F4                                     |
| <i>Phaseolus vulgaris</i> L.  | Faba  | a      | neo | cas | 4  |      | r     | del  | AmC AmS |                  |     |      |     | Chrtková in F4                                     |
| <i>Phelipanche nana</i> (Reuter) Soják                              | Orob  | a b pe | neo | cas | 1  | 1985 | v     | acc  | M       |                  |     |      |     | Zázvorka in F6                                     |
| <i>Phelipanche ramosa</i> (L.) Pomel                                | Orob  | a b pe | ar  | cas | 2  |      | v     | acc  | M       |                  | 1   |      |     | Jehlík 1998a, Zázvorka in F6                       |
| <i>Phlodelphus coronarius</i> L.                                    | Hydra | s      | neo | cas | 4  | 1819 | r     | del  | M       |                  |     |      |     | Bělohávková in F3                                  |
| <i>Phleum paniculatum</i> Huds.                                     | Poac  | a      | neo | cas | 1  |      | r     | acc  | M       |                  |     |      |     | Kubát et al. 2002                                  |
| <i>Phleum subulatum</i> (Savi) Asch. et Graebn.                     | Poac  | a      | neo | cas | 1  | 1926 | s+v   | acc  | M       |                  |     |      |     | Kubát et al. 2002                                  |
| <i>Phlox drummondii</i> Hook.                                       | Pole  | a      | neo | cas | 4  |      | r     | del  | AmN     |                  |     |      |     | Křisa in F6  |
| <i>Phlox paniculata</i> L.  | Pole  | pe     | neo | cas | 4  | 1880 | r     | del  | AmN     |                  |     |      |     | Křisa in F6  |
| <i>Phlox subulata</i> L.  | Pole  | pe     | neo | cas | 4  |      | r     | del  | AmN     |                  |     |      |     | Křisa in F6  |
| <i>Physalis alkekengi</i> L. var. <i>alkekengi</i>                  | Sola  | pe     | ar  | nat | 11 |      | sc    | del  | M       |                  | 7   |      |     | Hendrych 1989, Slavík in F6                        |
| <i>Physalis alkekengi</i> var. <i>franchetii</i> (Mast.) Makino     | Sola  | pe     | neo | cas | 4  |      | r     | del  | anec    |                  |     |      |     | Slavík in F6                                       |
| <i>Physalis angulata</i> L.   | Sola  | a      | neo | cas | 4  | 1972 | s+v   | del  | AmN AmC |                  |     |      |     | Slavík in F6                                       |
| <i>Physalis peruviana</i> L.  | Sola  | a (pe) | neo | cas | 4  |      | r     | del  | AmS     |                  |     |      |     | Slavík in F6                                       |
| <i>Physalis philadelphica</i> Lam.                                  | Sola  | a      | neo | cas | 4  | 1935 | r     | del  | AmC     |                  |     |      |     | Slavík in F6                                       |
| <i>Physalis pubescens</i> L.  | Sola  | a      | neo | cas | 4  | 2001 | s+v   | del  | AmN AmC |                  |     |      |     | Pyšek et al. 2002, Lepší 2005                      |
| <i>Physocarpus opulifolius</i> (L.) Maxim.                          | Rosa  | s      | neo | nat | 12 | 1874 | la    | del  | AmN     |                  | 5   |      |     | Kobřížek in F3                                     |
| <i>Phytolacca americana</i> L.                                      | Phyt  | pe     | neo | cas | 4  | 17th | r     | del  | AmN     |                  | 5   | yes  |     | Skalický in F2                                     |
| <i>Phytolacca esculenta</i> Van Houtte                              | Phyt  | pe     | neo | nat | 12 | 1956 | r     | del  | As      |                  | 5   |      |     | Skalický 1972, Skalický in F2                      |
| <i>Pimpinella anisum</i> L.   | Apiac | a      | ar  | cas | 4  |      | r     | del  | M       |                  |     |      |     | Stěpánek in F5                                     |
| <i>Pimpinella peregrina</i> L.                                      | Apiac | pe     | neo | cas | 1  | 2011 | s     | acc  | M       |                  |     | yes  |     | Nepraš et al. 2011, Nepraš in A10                  |
| <i>Pinguicula crystallina</i> subsp. <i>hirtiflora</i> (Ten.) Strid | Lent  | pe     | neo | cas | 4  | 2006 | s     | del  | M       |                  |     |      |     | this study   |
| <i>Pinguicula grandiflora</i> subsp. <i>rosea</i> (Mutel) Casper    | Lent  | pe     | neo | cas | 4  | 2006 | s     | del  | E       |                  |     |      |     | this study   |
| <i>Pinus nigra</i> J. F. Arnold subsp. <i>nigra</i>                 | Pina  | t      | neo | nat | 12 |      | sc    | del  | E       | 13 <sup>33</sup> | 16  |      |     | Skalická in F1                                     |
| <i>Pinus strobus</i> L.   | Pina  | t      | neo | inv | 18 | 1800 | la    | del  | AmN     |                  | 9   | yes+ |     | Skalická in F1, Hadimcová et al. 1997              |

| Taxon   | Fam   | LH     | Res | Inv | PG | Ist  | Abund | Path | Origin      | Cover           | Hab | IEc | IEen | Source  |
|---|-------|--------|-----|-----|----|------|-------|------|-------------|-----------------|-----|-----|------|---|
| <i>Pistia stratiotes</i> L.                                   | Arac  | a (pe) | neo | cas | 4  |      | v     | del  | AF AmS      |                 |     | yes | yes  | Kubát et al. 2002, Koutecký in A3, Závěská Drábková in F8 |
| <i>Pisum sativum</i> L.                                       | Faba  | a      | ar  | cas | 5  |      | r     | del  | anec        |                 |     |     |      | Chrtěk in F4  |
| <i>Plantago afra</i> L.                                       | Plant | a      | neo | cas | 1  | 1851 | s+v   | acc  | M           |                 |     |     |      | Chrtěk in F6  |
| <i>Plantago alpina</i> L.                                     | Plant | pe     | neo | cas | 4  | 1934 | v     | del  | E           |                 |     |     |      | Chrtěk & Skočdopolová 1995, Chrtěk in F6                  |
| <i>Plantago coronopus</i> L. subsp. <i>coronopus</i>          | Plant | a pe   | neo | cas | 1  | 1935 | v     | acc  | M           |                 |     |     |      | Chrtěk in F6  |
| <i>Plantago genitanoides</i> Sm.                              | Plant | pe     | neo | cas | 4  |      | v     | del  | E As        |                 |     |     |      | Chrtěk in F6  |
| <i>Plantago ×hispanica</i> Münchh.                            | Plant | t      | neo | cas | 4  |      | r     | del  | anec        |                 |     |     |      | Pyšek et al. 2002   |
| <i>Platycladus orientalis</i> (L.) Franco                     | Cupr  | s t    | neo | cas | 4  | 1950 | r     | del  | As          |                 | 6   |     |      | Skalická in F1  |
| <i>Podophyllum hexandrum</i> Royle                            | Berb  | pe     | neo | cas | 4  | 2009 | s     | del  | As          |                 |     |     |      | this study  |
| <i>Polycarpon tetraphyllum</i> (L.) L.                        | Cary  | a      | neo | cas | 1  | 1863 | r     | acc  | E M         |                 |     |     |      | Smejkal in F2   |
| <i>Polycnemum arvense</i> L.                                  | Amara | a      | ar  | cas | 2  |      | r     | acc  | E M As      |                 | 2   |     |      | Tomšovic in F2, Lysák in A2                               |
| <i>Polycnemum heuffelii</i> Läng                              | Amara | a      | ar  | cas | 2  |      | v     | acc  | M           |                 |     |     |      | Tomšovic in F2  |
| <i>Polycnemum majus</i> A. Braun                              | Amara | a      | ar  | nat | 6  |      | r     | acc  | E M         |                 | 6   |     |      | Tomšovic in F2, Novák 2001                                |
| <i>Polygonatum latifolium</i> (Mill.) Desf.                   | Aspa  | pe     | neo | cas | 4  | 1809 | r     | del  | E           |                 |     |     |      | Šída in F8  |
| <i>Polygonum fugax</i> Steud.                                 | Poac  | a      | neo | cas | 1  | 1964 | s+v   | acc  | M           |                 |     |     |      | Pyšek et al. 2002   |
| <i>Polygonum molspeitensis</i> (L.) Desf.                     | Poac  | a      | neo | cas | 1  | 1961 | r     | acc  | M           |                 |     |     |      | Dvořák & Kühn 1966, Dostál 1989, Kubát et al. 2002        |
| <i>Pontederia cordata</i> L.                                  | Pont  | pe aq  | neo | cas | 4  | 2004 | r     | del  | AmN & C & S |                 |     |     |      | Kaplan in A8  |
| <i>Populus balsamifera</i> L.                                 | Sali  | t      | neo | nat | 12 | 1880 | r     | del  | AmN         |                 |     |     |      | Pyšek et al. 2002   |
| <i>Populus ×canadensis</i> Moench                             | Sali  | t      | neo | inv | 18 |      | la    | del  | hybrid      | 9 <sup>44</sup> | 15  | yes |      | Koblížek in F2, Kubát et al. 2002                         |
| <i>Portulaca grandiflora</i> Hook.                            | Port  | a      | neo | cas | 4  | 1937 | r     | del  | AmS         |                 | 2   |     |      | Domin 1937, Skalický & Sutory in F2, Petřík 2001          |
| <i>Portulaca oleracea</i> L. subsp. <i>oleracea</i>           | Port  | a      | ar  | inv | 14 |      | sc    | acc  | M           | 9 <sup>45</sup> | 5   |     |      | Skalický & Sutory in F2                                   |
| <i>Potentilla adscharica</i> R. Keller                        | Rosa  | pe     | neo | cas | 4  | 1947 | s+v   | del  | E           |                 |     |     |      | Soják 2007  |
| <i>Potentilla intermedia</i> L.                               | Rosa  | b pe   | neo | nat | 7  | 1903 | r     | acc  | E           |                 | 6   |     |      | Soják in F4   |
| <i>Potentilla radiata</i> Lehm.                               | Rosa  | pe     | neo | cas | 1  | 1920 | s+v   | acc  | E M         |                 |     |     |      | Soják 2007  |
| <i>Potentilla supina</i> subsp. <i>paradoxa</i> (Nutt.) Soják | Rosa  | a pe   | neo | cas | 1  | 1921 | v     | acc  | As AmN      |                 |     |     |      | Soják in F4   |
| <i>Primula rosea</i> Royle                                    | Prim  | pe     | neo | cas | 4  | 2005 | r     | del  | As          |                 |     |     |      | Kočí in A4  |
| <i>Primula vulgaris</i> Huds. subsp. <i>vulgaris</i>          | Prim  | pe     | neo | nat | 11 |      | r     | del  | E M         |                 |     |     |      | Kovanda in F3   |
| <i>Prunus armeniaca</i> L.                                    | Rosa  | t s    | ar  | cas | 5  |      | r     | del  | As          |                 |     |     |      | Chrtěk in F3  |
| <i>Prunus cerasifera</i> Ehrh.                                | Rosa  | t s    | ar  | inv | 18 |      | sc    | del  | M           |                 | 6   | yes |      | Chrtěk in F3  |
| <i>Prunus cerasus</i> L.                                      | Rosa  | t s    | ar  | nat | 17 |      | sc    | del  | anec        | 3 <sup>34</sup> | 12  |     |      | Chrtěk in F3  |
| <i>Prunus domestica</i> L.                                    | Rosa  | t s    | ar  | nat | 17 |      | sc    | del  | anec        | 4 <sup>81</sup> | 8   |     |      | Chrtěk in F3  |
| <i>Prunus xeminens</i> Beck                                   | Rosa  | s      | ar  | nat | 6  |      | sc    | acc  | hybrid      |                 |     |     |      | Chrtěk in F3  |
| <i>Prunus ×fruticans</i> Weihe                                | Rosa  | s      | ar  | nat | 7  |      | r     | acc  | hybrid      |                 | 6   |     |      | Chrtěk in F3  |
| <i>Prunus insititia</i> L.                                    | Rosa  | t s    | ar  | nat | 17 |      | sc    | del  | M           | 4 <sup>81</sup> | 5   |     |      | Chrtěk in F3  |
| <i>Prunus laurocerasus</i> L.                                 | Rosa  | s      | neo | cas | 4  | 2001 | r     | del  | M           |                 |     | yes |      | Pyšek et al. 2002   |
| <i>Prunus persica</i> (L.) Batsch                             | Rosa  | t s    | ar  | cas | 5  |      | r     | del  | As          |                 |     |     |      | Chrtěk in F3  |
| <i>Prunus serotina</i> Ehrh.                                  | Rosa  | t s    | neo | inv | 18 |      | la    | del  | AmN         |                 | 5   | yes |      | Chrtěk in F3  |
| <i>Prunus virginiana</i> L.                                   | Rosa  | t s    | neo | cas | 4  |      | s     | del  | AmN         |                 |     |     |      | Pyšek et al. 2002   |
| <i>Psephellus dealbatius</i> (Willd.) K. Koch                 | Aster | pe     | neo | nat | 11 |      | r     | del  | E           |                 | 5   |     |      | Štěpánek & Koutecký in F7                                 |

| Taxon   | Fam   | LH   | Res | Inv | PG | Ist     | Abund | Path | Origin | Cover            | Hab | IEc  | IEi | Source   |
|---|-------|------|-----|-----|----|---------|-------|------|--------|------------------|-----|------|-----|--|
| <i>Pseudofumaria alba</i> (Mill.) Lidén subsp. <i>alba</i>          | Papa  | pe   | neo | nat | 11 | 1995    | r     | del  | M      |                  | 2   |      |     | Dostál 1989  |
| <i>Pseudofumaria lutea</i> (L.) Borkh.                              | Papa  | pe   | neo | nat | 11 | 1886    | sc    | del  | M      |                  | 2   |      |     | Cejp 1948a, Smejkal in F1  |
| <i>Pseudotsuga menziesii</i> (Mirb.) Franco                         | Pina  | t    | neo | nat | 11 |         | r     | del  | AmN    |                  | 7   |      |     | Skalická in F1   |
| <i>Ptelea trifoliata</i> L.   | Ruta  | s    | neo | cas | 4  | 1961    | r     | del  | AmN    |                  |     |      |     | Opravil 1961, Skalická & Svoboda 1971  |
| <i>Pteris multifida</i> Poir.                                       | Pter  | pe f | neo | cas | 1  | 1998    | s+v   | acc  | As     |                  |     |      |     | Ekrť in A9   |
| <i>Puccinellia gigantea</i> (Grossh.) Grossh.                       | Poac  | a pe | neo | cas | 1  |         | r     | acc  | M      |                  |     |      |     | Kubát et al. 2002  |
| <i>Puccinellia stricta</i> (Hook. f.) Blom                          | Poac  | pe   | neo | cas | 1  | 1961    | s+v   | acc  | Au     |                  |     |      |     | Dvořák & Kühn 1966   |
| <i>Pulmonaria rubra</i> Schott                                      | Bora  | pe   | neo | cas | 4  | 2011    | s     | del  | E      |                  |     |      |     | Hadíneck & Rydlo in A3   |
| <i>Pulsatilla slavica</i> G. Reuss                                  | Ranu  | pe   | neo | cas | 4  | 1852    | r     | del  | E      |                  |     |      |     | Skalický in F1, Šuk 2001   |
| <i>Pulsatilla vulgaris</i> Mill.                                    | Ranu  | pe   | neo | cas | 4  | 1856    | r     | del  | E      |                  |     |      |     | Skalický in F1   |
| <i>Puschkinia scilloides</i> Adams                                  | Aspa  | pe   | neo | cas | 4  |         | r     | del  | M      |                  |     |      |     | Bělohávková in F8  |
| <i>Pyracantha coccinea</i> M. J. Roem.                              | Rosa  | s    | neo | nat | 12 | 2002    | r     | del  | E As   |                  |     |      |     | this study   |
| <i>Pyrus xamphigenea</i> Dostálek                                   | Rosa  | t    | ar  | nat | 7  |         | sc    | acc  | hybrid |                  | 21  |      |     | Dostálek in F3   |
| <i>Pyrus nivalis</i> Jacq.  | Rosa  | t    | ar  | nat | 11 |         | sc    | del  | anec   |                  |     |      |     | Dostálek in F3   |
| <i>Quercus rubra</i> L.   | Rosa  | t    | ar  | cas | 3  |         | v     | del  | E AS   |                  |     |      |     | Dostálek in F3   |
| <i>Ranunculus acris</i> subsp. <i>friesianus</i> (Jord.) Syme       | Faga  | t    | neo | inv | 18 |         | sc    | del  | AmN    |                  | 14  |      |     | Koblížek in F2   |
| <i>Ranunculus arvensis</i> L.                                       | Ranu  | pe   | neo | nat | 7  | 1882    | r     | acc  | E      |                  | 3   |      |     | Křisa in F1  |
| <i>Raphanus raphanistrum</i> L.                                     | Ranu  | a    | ar  | nat | 6  |         | sc    | acc  | E M AS |                  | 2   |      |     | Křisa in F1  |
| <i>Raphanus sativus</i> L.  | Bras  | a    | ar  | nat | 13 |         | c     | acc  | M      |                  | 11  |      |     | Zelený in F3   |
| <i>Rapistrum rugosum</i> (L.) All. subsp. <i>rugosum</i>            | Bras  | a b  | ar  | cas | 5  |         | r     | del  | anec   |                  | 3   |      |     | Zelený in F3   |
| <i>Rapistrum rugosum</i> subsp. <i>orientale</i> (L.) Arcang.       | Bras  | a b  | ar  | cas | 1  | 1940    | r     | acc  | M      |                  |     |      |     | Hejny et al. 1973, Smejkal in F3   |
| <i>Reseda alba</i> L., subsp. <i>alba</i>                           | Bras  | a b  | neo | cas | 4  | 1840    | r     | del  | M      |                  |     |      |     | Smejkal in F3  |
| <i>Reseda luteola</i> L.  | Rese  | pe b | ar  | nat | 7  |         | sc    | acc  | M      | 1 <sup>147</sup> | 21  |      |     | Kubát & Šourková in F3   |
| <i>Reseda odorata</i> L.  | Rese  | b    | ar  | nat | 6  |         | sc    | acc  | M      |                  | 4   |      |     | Kubát & Šourková in F3   |
| <i>Reseda phytouma</i> L.   | Rese  | a b  | ar  | cas | 4  | 1900    | r     | del  | anec   |                  |     |      |     | Kubát & Šourková in F3   |
| <i>Reynoutria xbohemica</i> Chrtková et Chrtková                    | Poly  | pe   | neo | inv | 18 | 1942    | c     | del  | hybrid |                  |     |      |     | Hendrych 1978, Roubal 1984, Kubát & Šourková in F3, Štefánek in A5           |
| <i>Reynoutria japonica</i> Houtt. var. <i>japonica</i>              | Poly  | pe   | neo | inv | 18 | 1892    | c     | del  | As     |                  | 12  | yes+ |     | Chrtk in F2, Mandák et al. 2004  |
| <i>Reynoutria japonica</i> var. <i>compacta</i> (Hook. f.) Moldenke | Poly  | pe   | neo | cas | 4  | 1995    | r     | del  | As     | 26 <sup>51</sup> | 12  | yes+ | yes | Chrtk in F2, Mandák et al. 2004<br>Hlaváček et al. 1996, Mandák & Pyšek 1997 |
| <i>Reynoutria sachalinensis</i> (F. Schmidt) Nakai                  | Poly  | pe   | neo | inv | 18 | 1869    | la    | del  | As     |                  | 12  | yes+ | yes | Chrtk in F2, Mandák et al. 2004<br>Štech in F7                               |
| <i>Rhagadiolus stellatus</i> (L.) Gaertn.                           | Aster | a    | neo | cas | 1  | 1929    | v     | acc  | M      |                  |     |      |     | Štech in F7  |
| <i>Rhaponticum carthamoides</i> (Willd.) Ilijin                     | Aster | pe   | neo | cas | 4  | 1991    | r     | del  | As     |                  |     |      |     | Řehořek in A3  |
| <i>Rhaponticum repens</i> (L.) Hidalgo                              | Aster | pe   | neo | cas | 1  | 1945    | r     | acc  | M      |                  |     |      |     | Hejny et al. 1973, Jehlík 1998a, Skalická in F7                              |
| <i>Rheum officinale</i> Baillon                                     | Poly  | pe   | neo | cas | 4  | 1980s   | r     | del  | As     |                  |     |      |     | Lepší et al. 2006, Šrda in A7  |
| <i>Rheum schabarbarum</i> L.  | Poly  | pe   | neo | cas | 4  | 1967    | r     | del  | As     |                  | 2   |      |     | Chrtk in F2  |
| <i>Rhodanthe mangliesii</i> Lindl.                                  | Aster | a    | neo | cas | 4  | 1950    | s+v   | del  | Au     |                  |     |      |     | Dostál et al. 1948–1950, Štech in F7   |
| <i>Rhodotypos scandens</i> (Thunb.) Makino                          | Rosa  | s    | neo | nat | 11 | ca 1990 | la    | del  | As     |                  |     |      |     | this study   |
| <i>Rhus typhina</i> (L.) Sudw.                                      | Anac  | s t  | neo | nat | 12 | 1900    | la    | del  | AmN    |                  | 1   | yes  | yes | Skalická in F5   |
| <i>Ribes aureum</i> Pursh   | Gros  | s    | neo | cas | 4  | 1900    | r     | del  | AmN    |                  |     |      |     | Kirschner in F3  |

| Taxon  | Fam   | LH         | Res | Inv | PG | Ist   | Abund | Path | Origin  | Cover           | Hab | IEc  | IEs  | Source   |
|--|-------|------------|-----|-----|----|-------|-------|------|---------|-----------------|-----|------|------|--|
| <i>Ribes odoratum</i> H. L. Wendl.                             | Gros  | s          | neo | cas | 4  |       | sc    | del  | AmN     |                 |     |      |      | Kirschner in F3  |
| <i>Ribes rubrum</i> L.   | Gros  | s          | neo | nat | 17 | 1809  | sc    | del  | E As    | 1 <sup>46</sup> | 15  | yes  |      | Kirschner in F3  |
| <i>Ribes sanguineum</i> Pursh                                  | Gros  | s          | neo | cas | 4  | 2008  | s     | del  | AmN     |                 |     | yes  |      | Hadinec & Prach in A7                                    |
| <i>Ribes spicatum</i> Robson                                   | Gros  | s          | neo | cas | 4  | 1885  | r     | del  | E As    |                 |     |      |      | Kirschner in F3  |
| <i>Ricinus communis</i> L.                                     | Euph  | a (ss s t) | neo | cas | 4  | 1996  | r     | del  | Af      |                 |     | yes  |      | Pyšek et al. 2002  |
| <i>Robinia pseudoacacia</i> L.                                 | Faba  | t          | neo | inv | 18 | 1874  | c     | del  | AmN     |                 | 24  | yes  | yes+ | Chrtková in F4   |
| <i>Rodgersia pinnata</i> Franch.                               | Saxi  | pe         | neo | cas | 4  | 2001  | s     | del  | As      |                 |     |      |      | Pyšek et al. 2002, Král et al. 2004c                     |
| <i>Rodgersia podophylla</i> A. Gray                            | Saxi  | pe         | neo | cas | 4  | 1930s | r     | del  | As      |                 |     |      |      | Sekerka 2009   |
| <i>Rosa xalba</i> L.   | Rosa  | s          | neo | cas | 5  | 1874  | r     | del  | anec    |                 |     | yes  |      | Větvicka in F4   |
| <i>Rosa xcentifolia</i> L.                                     | Rosa  | s          | ar  | cas | 5  |       | r     | del  | anec    |                 |     |      |      | Větvicka in F4   |
| <i>Rosa foetida</i> Herrm.                                     | Rosa  | s          | neo | cas | 4  | 1814  | r     | del  | anec    |                 |     |      |      | Větvicka in F4   |
| <i>Rosa glauca</i> Pourr.                                      | Rosa  | s          | neo | cas | 4  | 1874  | r     | del  | E       |                 |     |      |      | Větvicka in F4   |
| <i>Rosa multiflora</i> Thunb.                                  | Rosa  | s          | neo | cas | 4  |       | r     | del  | As      |                 |     |      |      | Tichá 2004   |
| <i>Rosa rugosa</i> Thunb.                                      | Rosa  | s          | neo | cas | 4  | 1950  | r     | del  | As      |                 | 3   | yes  | yes  | Větvicka in F4   |
| <i>Rosa villosa</i> L.   | Rosa  | s          | ar  | nat | 9  |       | r     | del  | E       |                 | 2   |      |      | Větvicka in F4   |
| <i>Rostraria cristata</i> (L.) Trzevel                         | Poac  | a          | neo | cas | 1  | 1927  | r     | acc  | M       |                 |     |      |      | Dostál 1989, Kubát et al. 2002                           |
| <i>Rubia tinctorum</i> L.                                      | Rubi  | pe         | neo | cas | 4  | 1800  | r     | del  | M       |                 |     |      |      | Kubát in F6  |
| <i>Rubrivina polystachya</i> (Meism.) M. Král                  | Poly  | pe         | neo | nat | 10 |       | sc    | del  | As      |                 | 2   | yes  |      | Chrtěk in F2, Hadinec in A1                              |
| <i>Rubus allegheniensis</i> Porter                             | Rosa  | s          | neo | cas | 4  |       | r     | del  | AmN     |                 |     |      |      | Holub in F4  |
| <i>Rubus armeniacus</i> Focke                                  | Rosa  | s          | neo | nat | 11 |       | r     | del  | E       |                 |     | yes  | yes  | Holub in F4  |
| <i>Rubus canadensis</i> L.                                     | Rosa  | s          | neo | cas | 4  |       | r     | del  | AmN     |                 |     |      |      | Holub in F4, Holub 1999, Žiła & Chán 2001, Hadinec in A1 |
| <i>Rubus illecebrosus</i> Focke                                | Rosa  | ss         | neo | cas | 4  |       | s     | del  | As      |                 |     |      |      | Holub in F4  |
| <i>Rubus laciniatus</i> Willd.                                 | Rosa  | s          | neo | nat | 11 |       | r     | del  | anec    |                 |     |      |      | Holub in F4  |
| <i>Rubus moschus</i> Juz.                                      | Rosa  | s          | neo | cas | 4  |       | s     | del  | E       |                 |     |      |      | Holub in F4  |
| <i>Rubus occidentalis</i> L.                                   | Rosa  | s          | neo | cas | 4  | 1997  | s     | del  | AmN     |                 |     |      |      | Holub in F4  |
| <i>Rubus odoratus</i> L.                                       | Rosa  | s          | neo | nat | 9  | 1880  | r     | del  | AmN     |                 | 7   |      |      | Holub in F4, Hadinec in A2                               |
| <i>Rubus parviflorus</i> Nutt.                                 | Rosa  | s          | neo | nat | 9  |       | s     | del  | AmN     |                 |     |      |      | Holub in F4  |
| <i>Rubus phoenicolasius</i> Maxim.                             | Rosa  | s          | neo | cas | 4  |       | r     | del  | As      |                 |     |      |      | Holub in F4  |
| <i>Rubus silvaticus</i> Weihe et Nees                          | Rosa  | s          | neo | cas | 1  |       | s     | acc  | E       |                 |     |      |      | Holub in F4  |
| <i>Rubus tuberculatus</i> Bab.                                 | Rosa  | s          | neo | cas | 1  |       | s     | acc  | E       |                 |     |      |      | Holub in F4  |
| <i>Rubus ulmifolius</i> Schott                                 | Rosa  | s          | neo | cas | 4  |       | s     | del  | E       |                 |     |      |      | Holub in F4  |
| <i>Rubus xanthocarpus</i> Bureau et Franch.                    | Rosa  | pe         | neo | nat | 9  | 1962  | s     | del  | As      |                 |     |      |      | Holub & Palek 1981, Holub in F4                          |
| <i>Rudbeckia fulgida</i> Aiton                                 | Aster | pe         | neo | cas | 4  | 1989  | s+v   | del  | AmN     |                 |     |      |      | Deyl & Skočdopolová-Deylová 1989                         |
| <i>Rudbeckia hirta</i> L.                                      | Aster | b pe       | neo | cas | 4  | 1873  | sc    | del  | AmN     |                 |     |      |      | Bělohávková in F7  |
| <i>Rudbeckia laciniata</i> L.                                  | Aster | pe         | neo | inv | 18 | 1859  | c     | del  | AmN     |                 | 10  | yes  | yes  | Bělohávková in F7  |
| <i>Rumex acetosa</i> x <i>R. thyrsiflorus</i>                  | Poly  | pe         | neo | cas | 1  |       | r     | acc  | hybrid  |                 |     |      |      | Kubát in F2  |
| <i>Rumex alpinus</i> L.  | Poly  | pe         | neo | inv | 14 | 1819  | la    | acc  | E       |                 | 12  | yes+ |      | Kubát in F2, Hendrych 2001                               |
| <i>Rumex brownii</i> Campd.                                    | Poly  | pe         | neo | cas | 1  | 1965  | s+v   | acc  | Au      |                 |     |      |      | Kubát in F2  |
| <i>Rumex confertus</i> Willd.                                  | Poly  | pe         | neo | cas | 1  | 1965  | r     | acc  | E As    |                 |     | yes  | yes  | Jehliř & Kopecký 1967, Kubát in F2                       |
| <i>Rumex xcoronicatus</i> Kubát                                | Poly  | pe         | neo | cas | 1  | 1981  | v     | acc  | hybrid  |                 |     |      |      | Kubát 1985, Kubát in F2                                  |
| <i>Rumex dentatus</i> subsp. <i>hualacsyi</i> (Rech.) Rech. f. | Poly  | a          | neo | cas | 1  | 1965  | v     | acc  | M Af As |                 |     |      |      | Kubát in F2  |

| Taxon  | Fam   | LH | Res | Inv | PG  | Ist   | Abund | Path | Origin | Cover           | Hab | IEc | IE n | Source   |
|--|-------|----|-----|-----|-----|-------|-------|------|--------|-----------------|-----|-----|------|--|
| <i>Rumex x hybridus</i> Kindb.   | Poly  | pe | neo | cas | 1   | 1981  | r     | acc  | hybrid |                 |     |     |      | Kubát 1985, Kubát in F2  |
| <i>Rumex longifolius</i> DC. subsp. <i>longifolius</i>                             | Poly  | pe | neo | nat | 13  |       | la    | acc  | E      |                 |     |     |      | Kubát in F2, Kubát et al. 2002                                 |
| <i>Rumex longifolius</i> subsp. <i>sourekii</i> Kubát                              | Poly  | pe | neo | inv | 14  | 1961  | la    | acc  | E      |                 | 7   |     |      | Kubát in F2, Kubínová & Krahulec 1997, 1999, Kubát et al. 2002 |
| <i>Rumex x mezei</i> Hausskn.  | Poly  | pe | neo | cas | 1   | 1980  | v     | acc  | hybrid |                 |     |     |      | Kubát 1985, Kubát in F2  |
| <i>Rumex obovatus</i> Danser   | Poly  | a  | neo | cas | 1   |       | v     | acc  | AmS    |                 |     |     |      | Kubát in F2  |
| <i>Rumex patientia</i> L. subsp. <i>patientia</i>                                  | Poly  | pe | neo | nat | 9   | 1861  | sc    | del  | E M    |                 | 3   |     |      | Kubát in F2, Grtüll 1994, Jehlík 1998a                         |
| <i>Rumex patientia</i> × <i>R. tianschanicus</i> 'Uteuša'                          | Poly  | pe | neo | cas | 4   | 2005  | sc    | del  | anec   |                 |     |     |      | this study   |
| <i>Rumex x propinquus</i> Aresch.  | Poly  | pe | neo | cas | 1   | 1984  | r     | acc  | hybrid |                 |     |     |      | Kubát 1985, Kubát in F2  |
| <i>Rumex scutatus</i> L.   | Poly  | pe | neo | cas | 3   | 1818  | v     | del  | E      |                 |     |     |      | Kubát in F2  |
| <i>Rumex thyrsoflorus</i> Fingerh.   | Poly  | pe | neo | nat | 13  |       | la    | acc  | E As   | 3 <sup>83</sup> | 16  |     |      | Kubát in F2  |
| <i>Rumex triangulobovis</i> (Danser) Rech. f.                                      | Poly  | pe | neo | nat | 8   | 1943  | r     | acc  | AmN    |                 | 4   |     |      | Hejny 1949, Hejny et al. 1973, Kubát in F2, Jehlík 1998a       |
| <i>Ruta graveolens</i> L.  | Ruta  | ss | ar  | cas | 4   |       | r     | del  | M      |                 | 1   |     |      | Kovanda in F5  |
| <i>Sagittaria latifolia</i> Willd.   | Alis  | pe | aq  | neo | nat | 12    | 1945  | la   | del    | AmN             | 4   |     |      | Hrouda in F8   |
| <i>Salix acutifolia</i> Willd.   | Sali  | s  | neo | cas | 4   |       | r     | del  | E As   |                 |     |     |      | Chmelař & Koblížek in F2                                       |
| <i>Salix cordata</i> Michx.  | Sali  | s  | neo | cas | 4   | 1960s | s     | del  | AmN    |                 |     |     |      | this study   |
| <i>Salix melanopsis</i> Nutt.  | Sali  | s  | neo | nat | 11  | 1988  | r     | del  | AmN    |                 |     |     |      | Uradníček 2004   |
| <i>Salix x sepulcralis</i> Simonk.   | Sali  | t  | neo | cas | 4   | 2001  | s     | del  | anec   |                 |     |     |      | Pyšek et al. 2002  |
| <i>Salsola collina</i> Pall.   | Amar  | a  | neo | cas | 1   |       | r     | acc  | E As   |                 |     |     |      | Tomšovic in F2   |
| <i>Salvia officinalis</i> L.   | Lami  | ss | ar  | cas | 4   |       | r     | del  | M      |                 |     |     |      | Tomšovic in F6   |
| <i>Salvia reflexa</i> Hornem.  | Lami  | a  | neo | cas | 1   | 1934  | v     | acc  | AmN    |                 |     |     |      | Štěpánková in F6   |
| <i>Salvia sclarea</i> L.   | Lami  | b  | neo | cas | 4   | 1809  | r     | del  | M      |                 |     |     |      | Štěpánková in F6   |
| <i>Salvia spinosa</i> L.   | Lami  | pe | neo | cas | 1   | 1966  | s+v   | acc  | M      |                 |     |     |      | Štěpánková in F6   |
| <i>Salvia splendens</i> Roem. et Schult.   | Lami  | a  | neo | cas | 4   |       | r     | del  | AmS    |                 |     |     |      | Štěpánková 1999, Štěpánková in F6                              |
| <i>Salvia verbenaca</i> L.   | Lami  | pe | neo | cas | 1   | 1965  | v     | acc  | E M    |                 |     |     |      | Štěpánková in F6   |
| <i>Salvia viridis</i> L.   | Lami  | a  | neo | cas | 4   | 1908  | r     | del  | M      |                 |     |     |      | Štěpánková in F6   |
| <i>Sanbucius ebulus</i> L.   | Adox  | pe | ar  | nat | 13  |       | sc    | acc  | E M    |                 | 4   |     |      | Chrtěk in F5   |
| <i>Sanguisorba minor</i> subsp. <i>balearica</i> (Nyman) Muñoz Garm. et C. Navarro | Rosa  | pe | neo | nat | 7   | 1840  | r     | acc  | M      |                 |     |     |      | Holub 1978b, Skalický in F4                                    |
| <i>Sanguisorba tenuifolia</i> Link   | Rosa  | pe | neo | cas | 4   | 1946  | v     | del  | As     |                 |     |     |      | Skalický in F4   |
| <i>Santolina chamaecyparissus</i> L.   | Aster | ss | neo | cas | 4   |       | r     | del  | M      |                 |     |     |      | Bělohávková in F7  |
| <i>Saponaria ocyroides</i> L.  | Cary  | pe | neo | cas | 4   | 1906  | r     | del  | M      |                 |     |     |      | Domin 1924, Michal 1949, Šourková in F2                        |
| <i>Saponaria officinalis</i> L.  | Cary  | pe | ar  | nat | 11  |       | sc    | del  | E M    | 4 <sup>81</sup> | 13  |     |      | Šourková in F2   |
| <i>Sarracenia purpurea</i> L.  | Sarr  | pe | neo | cas | 4   | 2010  | s     | del  | AmN    |                 |     |     |      | this study   |
| <i>Sasa palmata</i> 'Nebulosa'   | Poac  | pe | neo | nat | 4   | 2012  | s     | del  | anec   |                 |     |     |      | this study   |
| <i>Satureja hortensis</i> L.   | Lami  | a  | ar  | cas | 4   |       | r     | del  | M      |                 |     |     |      | Tomšovic in F6   |
| <i>Saxifraga cuneifolia</i> L.   | Saxi  | pe | neo | cas | 4   |       | r     | del  | E      |                 |     |     |      | Hrouda & Šourková in F3  |
| <i>Saxifraga cymbalaria</i> L.   | Saxi  | a  | neo | cas | 4   | 1955  | r     | del  | M      |                 | 2   |     |      | Procházka et al. 1983, Doštal 1989, Pyšek 1996                 |
| <i>Saxifraga x geum</i> L.   | Saxi  | pe | neo | cas | 4   |       | sc    | del  | hybrid |                 |     |     |      | Hrouda & Šourková in F3  |
| <i>Saxifraga hostii</i> Tausch subsp. <i>hostii</i>                                | Saxi  | pe | neo | nat | 9   | 1850  | s     | del  | E      |                 |     |     |      | Hrouda & Šourková in F3  |
| <i>Saxifraga hypnoides</i> L.  | Saxi  | pe | neo | cas | 4   | 1819  | v     | del  | E      |                 |     |     |      | Hrouda & Šourková in F3  |

| Taxon  | Fam   | LH   | Res | Inv | PG | Ist  | Abund | Path | Origin  | Cover            | Hab | IEc | IEi | Source  |
|--|-------|------|-----|-----|----|------|-------|------|---------|------------------|-----|-----|-----|---|
| <i>Saxifraga rotundifolia</i> L.                             | Saxi  | pe   | neo | cas | 4  | 1956 | v     | del  | E M     |                  |     |     |     | Hrouda & Šourková in F3   |
| <i>Scandix pecten-veneris</i> L.                             | Apii  | a    | ar  | cas | 2  |      | r     | acc  | M       |                  | 1   | yes |     | Chrtěk et al. 1968, Křisa in F5, Hadinec et al. 2003                      |
| <i>Schismus barbatus</i> (L.) Thell.                         | Poac  | a    | neo | cas | 1  | 1961 | s+v   | acc  | M       |                  |     |     |     | Dvořák & Kühn 1966, Dostál 1989, Kubát et al. 2002                        |
| <i>Schubertia pinnata</i> (Lam.) Thell.                      | Aster | a    | neo | cas | 1  | 1950 | r     | acc  | AmC AmS |                  |     |     |     | Chrtěk 1981, Skalická in F7   |
| <i>Scilla forbesii</i> (Baker) Speta                         | Aspa  | pe   | neo | cas | 4  | 1934 | r     | del  | M       |                  |     |     |     | Trávníček 2010, Trávníček in F8   |
| <i>Scilla luciliae</i> (Boiss.) Speta                        | Aspa  | pe   | neo | cas | 4  |      | r     | del  | M       |                  | 3   |     |     | Trávníček in F8   |
| <i>Scilla sardensis</i> (Barr et Sugden) Speta               | Aspa  | pe   | neo | cas | 4  | 1965 | r     | del  | M       |                  |     |     |     | Král et al. 2004a, Trávníček 2010, Trávníček in F8                        |
| <i>Scirpus pendulus</i> Muhl.                                | Cype  | pe   | neo | cas | 1  |      | s+v   | acc  | AmN     |                  |     |     |     | Dostál 1989   |
| <i>Scleroblitum atriplicinum</i> (F. Muell.) Ulbr.           | Amara | a    | neo | cas | 1  | 1963 | v     | acc  | Au      |                  |     |     |     | Tomsövic in F2  |
| <i>Sclerochloa daria</i> (L.) P. Beauv.                      | Poac  | a    | ar  | nat | 6  |      | r     | acc  | M       | 13 <sup>75</sup> | 3   |     |     | Chrtěk & Záková 1990, Kubát et al. 2002                                   |
| <i>Sclerolaena tricuspis</i> (F. Muell.) Ulbr.               | Amara | a    | neo | cas | 1  | 1966 | v     | acc  | Au      |                  |     |     |     | Dvořák & Kühn 1966, Tomsövic in F2  |
| <i>Scolymus maculatus</i> L.                                 | Aster | a    | neo | cas | 1  | 1969 | s+v   | acc  | M       |                  |     |     |     | this study  |
| <i>Scopolia carniolica</i> Jacq.                             | Sola  | pe   | neo | nat | 11 | 1866 | r     | del  | E       |                  |     | yes |     | Čelakovský 1881, Pyšek et al. 2002, Hadinec in A7                         |
| <i>Scorpiurus muricatus</i> L.                               | Faba  | a    | neo | cas | 1  |      | r     | acc  | M       |                  |     |     |     | Chrtková in F4  |
| <i>Scrophularia canina</i> L.                                | Scro  | pe   | neo | cas | 1  | 1961 | v     | acc  | E M     |                  |     |     |     | Dvořáková in F6   |
| <i>Scrophularia chrysantha</i> Jaub. et Spach                | Scro  | b pe | neo | cas | 4  | 1855 | v     | del  | E M     |                  |     |     |     | Chrtěk & Skočtopolová 1996, Dvořáková in F6                               |
| <i>Scutellaria altissima</i> L.                              | Lami  | pe   | neo | nat | 10 | 1901 | sc    | del  | E       |                  | 7   |     |     | Chrtěk in F6  |
| <i>Secale cereale</i> L.                                     | Poac  | a    | ar  | cas | 5  |      | r     | del  | anec    |                  | 3   |     |     | Dostál 1989, Kubát et al. 2002  |
| <i>Sedobassia sedoides</i> (Schrad.) Freitag et G. Kaderleit | Amara | a    | neo | cas | 1  | 1960 | v     | acc  | E M As  |                  |     |     |     | Tomsövic in F2  |
| <i>Sedum aizoon</i> L.                                       | Cras  | pe   | neo | cas | 4  | 1880 | r     | del  | As      |                  |     |     |     | Grulich in F3   |
| <i>Sedum annuum</i> L.                                       | Cras  | a b  | neo | cas | 4  |      | s     | del  | E       |                  |     |     |     | Pyšek et al. 2002   |
| <i>Sedum hispanicum</i> L.                                   | Cras  | a b  | neo | nat | 12 |      | sc    | del  | M       |                  | 5   |     |     | Grulich in F3   |
| <i>Sedum hybridum</i> L.                                     | Cras  | pe   | neo | nat | 11 |      | r     | del  | As      |                  |     |     |     | Grulich in F3   |
| <i>Sedum ochroleucum</i> Chaix                               | Cras  | pe   | neo | nat | 11 |      | r     | del  | M       |                  |     |     |     | Holub 1972, Grulich in F3   |
| <i>Sedum pallidum</i> M. Bieb.                               | Cras  | pe   | neo | cas | 4  | 2001 | s     | del  | M       |                  |     |     |     | Pyšek et al. 2002, Hadinec & Lustyk 2008                                  |
| <i>Sedum rupestre</i> subsp. <i>erectum</i> 't Hart          | Cras  | pe   | neo | cas | 4  |      | sc    | del  | M       |                  | 4   |     |     | Grulich in F3   |
| <i>Sedum sarmentosum</i> Bunge                               | Cras  | pe   | neo | cas | 4  |      | r     | del  | As      |                  |     |     |     | Grulich in F3   |
| <i>Sedum spurium</i> M. Bieb.                                | Cras  | pe   | neo | nat | 11 | 1879 | la    | del  | E M     |                  | 13  |     |     | Grulich in F3   |
| <i>Sedum stoloniferum</i> S. G. Gmel.                        | Cras  | pe   | neo | cas | 4  | 2001 | r     | del  | E       |                  |     |     |     | Pyšek et al. 2002, Král et al. 2004b                                      |
| <i>Sempervivum tectorum</i> L.                               | Cras  | pe   | neo | nat | 11 | 1819 | r     | del  | E       |                  | 3   |     |     | Grulich in F3   |
| <i>Senecio xhelwingii</i> Beger                              | Aster | a    | neo | cas | 1  |      | r     | acc  | hybrid  |                  |     |     |     | Grulich in F7   |
| <i>Senecio inaequidens</i> DC.                               | Aster | pe   | neo | nat | 8  | 1997 | r     | acc  | Af      |                  | 2   | yes | yes | Jehlík 1998b, Špryňar in A1, Jehlík et al. 2003, Grulich in F7, Joza 2008 |
| <i>Senecio vernalis</i> Waldst. et Kit.                      | Aster | a    | neo | nat | 8  | 1822 | la    | acc  | M       |                  | 7   | yes |     | Dostál 1989, Grulich in F7  |
| <i>Senecio vulgaris</i> L.                                   | Aster | a    | ar  | nat | 13 |      | c     | acc  | anec    | 1 <sup>269</sup> | 16  |     |     | Grulich in F7   |
| <i>Setaria adhaerens</i> (Forssk.) Chiov.                    | Poac  | a    | neo | cas | 1  |      | s+v   | acc  | Af      |                  |     |     |     | Kubát et al. 2002   |
| <i>Setaria faberii</i> R. A. W. Herrm.                       | Poac  | a    | neo | nat | 8  | 1961 | r     | acc  | As      |                  | 2   |     |     | Jehlík 1998a, Kubát et al. 2002   |
| <i>Setaria italica</i> (L.) P. Beauv. subsp. <i>italica</i>  | Poac  | a    | ar  | cas | 4  |      | r     | del  | anec    |                  | 2   |     |     | Dostál 1989, Kubát et al. 2002  |

| Taxon   | Fam   | LH     | Res | Inv | PG | Ist  | Abund | Path | Origin      | Cover            | Hab | IEc | IEh | Source  |
|---|-------|--------|-----|-----|----|------|-------|------|-------------|------------------|-----|-----|-----|---|
| <i>Setaria italica</i> subsp. <i>moharria</i> (Alef.) R. A. W. Herrm. | Poac  | a      | ar  | cas | 4  |      | r     | del  | anec        |                  |     |     |     | Kubát et al. 2002                               |
| <i>Setaria pumila</i> (Poir.) Roem. et Schult.                        | Poac  | a      | ar  | nat | 13 |      | c     | acc  | M           | 6 <sup>174</sup> | 13  |     |     | Kubát et al. 2002                               |
| <i>Setaria verticillata</i> (L.) P. Beauv.                            | Poac  | a      | ar  | nat | 8  |      | la    | acc  | M           | 11 <sup>38</sup> | 2   |     |     | Kubát et al. 2002                               |
| <i>Setaria verticilliformis</i> Dumort.                               | Poac  | a      | ar  | nat | 6  |      | r     | acc  | hybrid      |                  |     |     |     | Kubát et al. 2002, Chrtrek et al. in A7         |
| <i>Setaria viridis</i> (L.) P. Beauv. subsp. <i>viridis</i>           | Poac  | a      | ar  | nat | 13 |      | c     | acc  | M           | 4 <sup>221</sup> | 20  |     |     | Kubát et al. 2002                               |
| <i>Setaria viridis</i> subsp. <i>pycnocoma</i> (Steud.) Tzevelev      | Poac  | a      | neo | cas | 1  |      | r     | acc  | M           |                  |     |     |     | Kubát et al. 2002                               |
| <i>Sherardia arvensis</i> L.  | Rubi  | a      | ar  | nat | 13 |      | sc    | acc  | E M         | 4 <sup>242</sup> | 6   |     |     | Kubát in F6                                     |
| <i>Sicyos angulatus</i> L.  | Cucu  | a      | neo | nat | 9  | 1880 | r     | del  | AmN         |                  | 4   |     |     | Chrtková in F2                                  |
| <i>Sida hermaphrodita</i> (L.) Rusby                                  | Malv  | pe     | neo | cas | 4  | 1958 | r     | del  | AmN         |                  |     |     |     | Slavík in F3                                    |
| <i>Sida rhombifolia</i> L. subsp. <i>rhombifolia</i>                  | Malv  | ss     | neo | cas | 1  | 1979 | r     | acc  | AmC AmS     |                  |     |     |     | Slavík in F3                                    |
| <i>Sida spinosa</i> L.  | Malv  | pe ss  | neo | cas | 1  | 1972 | r     | acc  | AmN & C & S |                  |     |     |     | Slavík in F3                                    |
| <i>Silene cretica</i> L.  | Cary  | a      | neo | cas | 1  | 1941 | v     | acc  | M           |                  |     |     |     | Šourková 1978, Šourková in F2                   |
| <i>Silene dichotoma</i> Ehrh. subsp. <i>dichotoma</i>                 | Cary  | a b    | ar  | nat | 6  |      | sc    | acc  | M           |                  | 4   |     |     | Šourková in F2                                  |
| <i>Silene gallica</i> L.  | Cary  | a b    | ar  | cas | 2  |      | r     | acc  | M           |                  | 3   |     |     | Šourková in F2, Lysák in A3                     |
| <i>Silene xgrecescui</i> Guşul.                                       | Cary  | pe     | neo | cas | 1  | 1972 | v     | acc  | hybrid      |                  |     |     |     | Šourková in F2                                  |
| <i>Silene xhampeana</i> Meusel et K. Werner                           | Cary  | pe     | ar  | cas | 1  |      | sc    | acc  | hybrid      |                  |     |     |     | Smejkal 1973, Šourková in F2                    |
| <i>Silene latifolia</i> subsp. <i>alba</i> (Mill.) Greuter et Burdet  | Cary  | pe a   | ar  | nat | 13 |      | c     | acc  | E M As      | 1 <sup>279</sup> | 22  |     |     | Šourková in F2                                  |
| <i>Silene noctiflora</i> L.   | Cary  | a b    | ar  | nat | 13 |      | c     | acc  | E M         | 4 <sup>489</sup> | 4   |     |     | Šourková in F2                                  |
| <i>Silene pendula</i> L.  | Cary  | a      | neo | cas | 4  | 1896 | r     | del  | M           |                  |     |     |     | Šourková in F2                                  |
| <i>Silene viridiflora</i> L.  | Cary  | pe     | neo | cas | 4  | 1971 | s+v   | del  | E M         |                  |     |     |     | Smejkal 1973, Šourková in F2                    |
| <i>Siphium perfoliatum</i> L.   | Aster | pe     | neo | cas | 4  | 1885 | r     | del  | AmN         |                  |     |     |     | Zelený in F7                                    |
| <i>Silybium marianum</i> (L.) Gaertn.                                 | Aster | a      | ar  | cas | 4  |      | r     | del  | M           |                  | 3   |     |     | Zelený in F7                                    |
| <i>Sinapis alba</i> L.  | Bras  | a      | neo | cas | 5  | 1875 | sc    | del  | M           |                  | 3   |     |     | Zelený in F3                                    |
| <i>Sinapis arvensis</i> L.  | Bras  | a      | ar  | nat | 17 |      | c     | del  | anec        | 5 <sup>597</sup> | 7   |     |     | Zelený in F3                                    |
| <i>Sinapis dissecta</i> Lag.  | Bras  | a      | neo | cas | 1  | 1953 | v     | acc  | M           |                  |     |     |     | Zelený in F3                                    |
| <i>Sisymbrium alifissimum</i> L.                                      | Bras  | a      | neo | nat | 13 | 1815 | c     | acc  | M           | 11 <sup>52</sup> | 5   |     |     | Dvořák in F3                                    |
| <i>Sisymbrium austriacum</i> Jacq. subsp. <i>austriacum</i>           | Bras  | b pe   | neo | cas | 1  | 1858 | v     | acc  | E M         |                  |     |     |     | Dvořák in F3                                    |
| <i>Sisymbrium irio</i> L.   | Bras  | a      | neo | cas | 1  | 1851 | r     | acc  | M As        |                  |     |     |     | Dvořák 1982, Dvořák in F3                       |
| <i>Sisymbrium loeselii</i> L.   | Bras  | a      | neo | inv | 14 | 1819 | c     | acc  | E M As      | 7 <sup>139</sup> | 16  | yes |     | Dvořák in F3                                    |
| <i>Sisymbrium officinale</i> (L.) Scop.                               | Bras  | a      | ar  | nat | 13 |      | c     | acc  | M           | 3 <sup>239</sup> | 11  |     |     | Dvořák in F3                                    |
| <i>Sisymbrium orientale</i> subsp. <i>macroloma</i> (Pomel) H. Lindb. | Bras  | a      | neo | cas | 1  | 1958 | v     | acc  | M           |                  |     |     |     | Dvořák in F3                                    |
| <i>Sisymbrium polymorphum</i> (Murray) Roth                           | Bras  | pe     | neo | cas | 1  | 1959 | v     | acc  | E As        |                  |     |     |     | Dvořák in F3                                    |
| <i>Sisymbrium stricissimum</i> L.                                     | Bras  | pe     | neo | nat | 7  | 1819 | sc    | acc  | E M         |                  | 13  |     |     | Jehlička 1971, 1981, 1998a, Hřejný et al. 1973, |
| <i>Sisymbrium volgense</i> E. Fourn.                                  | Bras  | pe     | neo | nat | 8  | 1960 | r     | acc  | E           |                  | 4   | yes |     | Dvořák in F3                                    |
| <i>Sisyrinchium montanum</i> Greene                                   | Irid  | pe     | neo | nat | 11 | 1853 | r     | del  | AmN         |                  | 6   |     |     | Chrtrek in F8                                   |
| <i>Sium sisarum</i> L.  | Apiac | pe     | neo | cas | 4  |      | s     | del  | As          |                  |     |     |     | Kubát et al. 2002                               |
| <i>Smyrniolum perfoliatum</i> L.                                      | Apiac | b      | neo | nat | 9  | 1886 | r     | del  | M           |                  | 6   |     |     | Křisa in F5, Hadinec in A3                      |
| <i>Solanum americanum</i> Mill.                                       | Sola  | a      | neo | cas | 1  | 1966 | r     | acc  | AmN AmS     |                  |     |     |     | Štěpánek in F6                                  |
| <i>Solanum carolinense</i> L.   | Sola  | a (pe) | neo | cas | 1  | 1985 | v     | acc  | AmN         |                  |     |     |     | Štěpánek in F6                                  |
| <i>Solanum cornutum</i> Lam.  | Sola  | a (pe) | neo | cas | 1  | 1899 | r     | acc  | AmN         |                  |     |     |     | Štěpánek in F6                                  |



| Taxon  | Fam   | LH       | Res | Inv | PG | Ist  | Abund | Path | Origin  | Cover            | Hab | IEc  | IEi | Source   |
|--|-------|----------|-----|-----|----|------|-------|------|---------|------------------|-----|------|-----|--|
| <i>Solanum decipiens</i> Opiz  | Sola  | a        | neo | nat | 8  | 1819 | sc    | acc  | M       | 2 <sup>152</sup> | 13  |      |     | Štěpánek in F6   |
| <i>Solanum linaeanum</i> Hepper et P.-M. L. Jaeger                   | Sola  | a (ss s) | neo | cas | 1  |      | s     | acc  | Af      |                  |     |      |     | Štěpánek in F6   |
| <i>Solanum lycopersicum</i> L.                                       | Sola  | a        | neo | cas | 5  | 1880 | la    | del  | anec    | 2 <sup>28</sup>  | 4   |      |     | Štěpánek in F6   |
| <i>Solanum melongena</i> L.  | Sola  | a (pe)   | neo | cas | 4  |      | r     | del  | anec    |                  |     |      |     | Štěpánek in F6   |
| <i>Solanum nigrum</i> L.   | Sola  | a        | ar  | nat | 13 |      | c     | acc  | M       | 2 <sup>152</sup> | 15  |      |     | Štěpánek in F6   |
| <i>Solanum physalifolium</i> Rusby                                   | Sola  | a        | neo | cas | 1  | 1975 | r     | acc  | AmS     |                  |     |      |     | Štěpánek in F6, Hadinec & Lustyk 2006, Holec et al. 2006 |
| <i>Solanum pseudocapsicum</i> L.                                     | Sola  | a (ss)   | neo | cas | 4  |      | r     | del  | AmS     |                  |     |      |     | Štěpánek in F6   |
| <i>Solanum pyracanthos</i> Lam.                                      | Sola  | a (s pe) | neo | cas | 4  | 1940 | v     | del  | Af      |                  |     |      |     | Štěpánek in F6   |
| <i>Solanum scabrum</i> Mill.   | Sola  | a pe     | neo | cas | 4  | 1975 | r     | del  | Af      |                  |     |      |     | Štěpánek in F6   |
| <i>Solanum sisymbriifolium</i> Lam.                                  | Sola  | a (pe)   | neo | cas | 1  | 1935 | r     | acc  | AmS     |                  |     |      |     | Štěpánek in F6   |
| <i>Solanum triflorum</i> Nutt.                                       | Sola  | a (pe)   | neo | cas | 1  | 1914 | v     | acc  | AmN     |                  |     |      |     | Štěpánek in F6   |
| <i>Solanum tuberosum</i> L.  | Sola  | pe       | neo | cas | 5  |      | c     | del  | anec    |                  | 2   |      |     | Štěpánek in F6   |
| <i>Solanum villosum</i> Mill.  | Sola  | a        | neo | cas | 1  | 1850 | r     | acc  | M       |                  | 3   |      |     | Štěpánek in F6   |
| <i>Solidago canadensis</i> L.  | Aster | pe       | neo | inv | 18 | 1838 | c     | del  | AmN     | 8 <sup>141</sup> | 14  | yes  |     | Slavík in F7   |
| <i>Solidago gigantea</i> Aiton                                       | Aster | pe       | neo | inv | 18 | 1851 | c     | del  | AmN     | 17 <sup>99</sup> | 14  | yes+ | yes | Slavík in F7   |
| <i>Solidago graminifolia</i> (L.) Salisb.                            | Aster | pe       | neo | cas | 4  |      | r     | del  | AmN     |                  |     | yes  |     | Slavík in F7   |
| <i>Sonchus arvensis</i> L. subsp. <i>arvensis</i>                    | Aster | pe       | ar  | nat | 13 |      | c     | acc  | M       | 3 <sup>572</sup> |     |      |     | Křisa in Slavík & Štěpánková 2003                        |
| <i>Sonchus asper</i> (L.) Hill                                       | Aster | a        | ar  | nat | 13 |      | c     | acc  | M       | 2 <sup>579</sup> | 19  |      | yes | Křisa in F7  |
| <i>Sonchus oleraceus</i> L.  | Aster | a        | ar  | nat | 13 |      | c     | acc  | M       | 1 <sup>705</sup> | 22  |      |     | Křisa in F7  |
| <i>Sorbaria sorbifolia</i> (L.) A. Braun                             | Rosa  | s        | neo | nat | 11 | 1940 | r     | del  | As      |                  |     | yes  |     | Koblížek in F3   |
| <i>Sorbus austriaca</i> (Beek) Prain et al.                          | Rosa  | t        | neo | cas | 4  | 1966 | r     | del  | E       |                  | 6   |      |     | Lepší et al. 2011  |
| <i>Sorbus domestica</i> L.   | Rosa  | t        | ar  | cas | 4  |      | r     | del  | E M     |                  | 4   |      |     | Kovanda in F3  |
| <i>Sorbus latifolia</i> (Lam.) Pers.                                 | Rosa  | t        | neo | cas | 4  |      | r     | del  | E       |                  |     |      |     | Lepší et al. 2011  |
| <i>Sorghum bicolor</i> (L.) Moench                                   | Poac  | a        | neo | cas | 4  |      | r     | del  | Af      |                  |     |      |     | Dostál 1989, Kubát et al. 2002                           |
| <i>Sorghum drummondii</i> (Steud.) Millsp. et Chase                  | Poac  | a        | neo | cas | 1  | 1960 | v     | acc  | Af      |                  |     |      |     | Dostál 1989, Kubát et al. 2002                           |
| <i>Sorghum halepense</i> (L.) Pers.                                  | Poac  | pe       | neo | cas | 1  | 1927 | r     | acc  | M       |                  |     | yes  |     | Jehliík 1998a, Kubát et al. 2002                         |
| <i>Spergula arvensis</i> L. subsp. <i>arvensis</i>                   | Cary  | a        | ar  | nat | 13 |      | c     | acc  | E M     | 6 <sup>338</sup> | 8   |      |     | Dvořák in F2   |
| <i>Spergula arvensis</i> subsp. <i>linicola</i> (Boreau) Janch.      | Cary  | a        | ar  | cas | 2  |      | v     | acc  | E M     |                  |     |      |     | Dvořák in F2   |
| <i>Spergula arvensis</i> subsp. <i>maxima</i> (Weithe) O. Schwarz    | Cary  | a        | ar  | cas | 2  |      | v     | acc  | E M     |                  |     |      |     | Dvořák in F2   |
| <i>Spergula arvensis</i> subsp. <i>sativa</i> (Boem.) Ces.           | Cary  | a        | ar  | nat | 15 |      | sc    | acc  | E M     |                  |     |      |     | Dvořák in F2   |
| <i>Spinacia oleracea</i> L.  | Amara | a        | ar  | cas | 5  |      | r     | del  | anec    |                  |     |      |     | Dostál et al. in F2                                      |
| <i>Spiraea alba</i> Du Roi   | Rosa  | s        | neo | nat | 11 |      | r     | del  | AmN     |                  |     | yes  |     | Koblížek in F3   |
| <i>Spiraea xbillardii</i> Héribin                                    | Rosa  | s        | neo | nat | 11 |      | r     | del  | anec    |                  |     |      |     | Koblížek in F3   |
| <i>Spiraea chamaedryfolia</i> L.                                     | Rosa  | s        | neo | nat | 11 | 1900 | r     | del  | E As    |                  |     | yes  |     | Koblížek in F3   |
| <i>Spiraea douglasii</i> Hook.                                       | Rosa  | s        | neo | nat | 11 | 1940 | r     | del  | AmN     |                  |     |      |     | Koblížek in F3   |
| <i>Spiraea hypericifolia</i> subsp. <i>obovata</i> (Willd.) H. Huber | Rosa  | s        | neo | cas | 4  | 1889 | s     | del  | E As    |                  |     |      |     | Koblížek in F3, Businský & Businská 2002                 |
| <i>Spiraea japonica</i> L. f.  | Rosa  | s        | neo | cas | 4  | 1995 | r     | del  | As      |                  |     |      |     | this study   |
| <i>Spiraea xmacrothyrsa</i> Dippel                                   | Rosa  | s        | neo | nat | 11 |      | r     | del  | hybrid  |                  |     |      |     | Kubát et al. 2002  |
| <i>Sporobolus indicus</i> (L.) R. Br.                                | Poac  | pe       | neo | cas | 1  | 1961 | s+y   | acc  | AmC AmS |                  |     |      |     | Dvořák & Kühn 1966                                       |
| <i>Stachys affinis</i> Bunge   | Lami  | pe       | neo | cas | 3  | 1924 | v     | del  | As      |                  |     |      |     | Novák 1924, Chrtěk 1994, Kubát et al. 2002               |
| <i>Stachys annua</i> (L.) L.   | Lami  | a        | ar  | nat | 6  |      | sc    | acc  | M       | 4 <sup>88</sup>  | 3   |      |     | Chrtěk in F6   |

| Taxon   | Fam   | LH  | Res | Inv | PG | Ist     | Abund | Path | Origin    | Cover            | Hab             | IEc | IEi | Source   |
|---|-------|-----|-----|-----|----|---------|-------|------|-----------|------------------|-----------------|-----|-----|--|
| <i>Stachys arvensis</i> (L.) L.                             | Lami  | a   | ar  | cas | 2  |         | v     | acc  | M         |                  | 1               |     |     | Chrték in F6, Chrték in A5                             |
| <i>Stachys byzantina</i> K. Koch                            | Lami  | pe  | neo | cas | 4  |         | r     | del  | M         |                  |                 |     |     | Chrték in F6   |
| <i>Stachys setifera</i> C. A. Mey.                          | Lami  | pe  | neo | cas | 1  | 2007    | s+v   | acc  | M         |                  |                 |     |     | Rehoček et al. in A8                                   |
| <i>Stellaria pallida</i> (Dumort.) Crép.                    | Cary  | a   | ar  | inv | 14 |         | sc    | acc  | M         |                  | 11              |     |     | Dvořáková in F2, Fajmon in A6, Hadinec & Kaplan in A10 |
| <i>Stipa calamagrostis</i> (L.) Wahlenb.                    | Poac  | pe  | neo | cas | 1  | 1908    | r     | acc  | E M       |                  |                 |     |     | Dostál 1989, Kubát et al. 2002                         |
| <i>Symphoricarpos albus</i> (L.) S. F. Blake                | Capr  | s   | neo | inv | 18 |         | sc    | del  | AmN       |                  | 9               |     |     | Chrték in F5   |
| <i>Symphoricarpos orbiculatus</i> Moench                    | Capr  | s   | neo | cas | 4  |         | r     | del  | AmN       |                  |                 |     |     | Chrték in F5   |
| <i>Symphoricarpon cordifolium</i> (L.) G. L. Nesom          | Aster | pe  | neo | cas | 4  | 1876    | r     | del  | AmN       |                  |                 |     |     | Kovanda & Kubát in F7                                  |
| <i>Symphoricarpon diumosum</i> × <i>S. novi-belgii</i>      | Aster | pe  | neo | cas | 4  |         | r     | del  | hybrid    |                  |                 |     |     | Kovanda & Kubát in F7                                  |
| <i>Symphoricarpon laeve</i> (L.) A. Löve et D. Löve         | Aster | pe  | neo | nat | 12 | 1851    | sc    | del  | AmN       |                  | 3               |     |     | Kovanda & Kubát in F7                                  |
| <i>Symphoricarpon laeve</i> × <i>S. lanceolatum</i>         | Aster | pe  | neo | cas | 4  |         | r     | del  | hybrid    |                  |                 |     |     | Kovanda & Kubát in F7                                  |
| <i>Symphoricarpon lanceolatum</i> (Willd.) G. L. Nesom      | Aster | pe  | neo | inv | 18 |         | c     | del  | AmN       |                  | 6 <sup>39</sup> |     |     | Kovanda & Kubát in F7                                  |
| <i>Symphoricarpon novae-angliae</i> (L.) G. L. Nesom        | Aster | pe  | neo | cas | 4  |         | r     | del  | AmN       |                  |                 |     |     | Kovanda & Kubát in F7                                  |
| <i>Symphoricarpon novae-angliae</i> (L.) G. L. Nesom        | Aster | pe  | neo | inv | 18 | 1850    | sc    | del  | AmN       |                  | 13              |     |     | Kovanda & Kubát in F7                                  |
| <i>Symphoricarpon xadignum</i> (Willd.) G. L. Nesom         | Aster | pe  | neo | inv | 18 | 1872    | sc    | del  | anec      |                  |                 |     |     | Kovanda & Kubát in F7                                  |
| <i>Symphoricarpon xversicolor</i> (Willd.) G. L. Nesom      | Aster | pe  | neo | inv | 18 |         | c     | del  | anec      |                  | 6               |     |     | Kovanda & Kubát in F7                                  |
| <i>Symphycium asperum</i> Lepech.                           | Bora  | pe  | neo | cas | 4  | 1941    | r     | del  | M         |                  |                 |     |     | Smejkal 1978, Slavík in F6                             |
| <i>Symphycium xuplandicum</i> Nyman                         | Bora  | pe  | neo | nat | 9  | 1908    | r     | del  | anec      |                  | 8               |     |     | Slavík in F6   |
| <i>Syringa vulgaris</i> L.                                  | Olea  | s   | neo | nat | 11 | 1809    | sc    | del  | E         |                  | 3 <sup>28</sup> |     |     | Kobřížek in F5   |
| <i>Tagetes erecta</i> L.                                    | Aster | a   | neo | cas | 4  |         | r     | del  | AmN AmC   |                  |                 |     |     | Bělohávková in F7                                      |
| <i>Tagetes patula</i> L.                                    | Aster | a   | neo | cas | 4  |         | r     | del  | AmN AmC   |                  |                 |     |     | Bělohávková in F7                                      |
| <i>Tagetes tenuifolia</i> Cav.                              | Aster | a   | neo | cas | 4  | 2009    | s     | del  | AmN       |                  |                 |     |     | this study   |
| <i>Tanacetum balsamita</i> L.                               | Aster | pe  | neo | cas | 4  |         | r     | del  | E M       |                  | 3               |     |     | Zelený in F7   |
| <i>Tanacetum macrophyllum</i> (Waldst. et Kit.) Sch. Bip.   | Aster | pe  | neo | nat | 11 |         | r     | del  | E M       |                  | 3               |     |     | Zelený in F7   |
| <i>Tanacetum parthenium</i> (L.) Sch. Bip.                  | Aster | pe  | ar  | nat | 11 |         | sc    | del  | E M       |                  | 6               |     |     | Zelený in F7   |
| <i>Tanacetum vulgare</i> L.                                 | Aster | pe  | ar  | nat | 15 |         | c     | del  | E         |                  | 6 <sup>20</sup> |     |     | Zelený in F7   |
| <i>Telekia spectosa</i> (Schreb.) Baumg.                    | Aster | pe  | neo | inv | 16 | ca 1820 | sc    | del  | E         |                  |                 |     |     | Kaplan in F7   |
| <i>Tetragonia tetragonoides</i> (Pall.) Kuntze              | Aizo  | a   | neo | cas | 4  | 1918    | r     | del  | As AmS Au |                  | 7               |     |     | Tomšovic & Bělohávková in F2, Hadinec & Lustyk 2008    |
| <i>Teucrium polium</i> L.                                   | Lami  | s   | neo | cas | 1  | 1960    | v     | acc  | M         |                  |                 |     |     | Mártonfi in F6   |
| <i>Thladiantha dubia</i> Bunge                              | Cucu  | pe  | neo | cas | 4  | 1939    | r     | del  | As        |                  | 4               |     |     | Chrtková in F2   |
| <i>Thlaspi arvense</i> L.                                   | Bras  | a b | ar  | nat | 13 |         | c     | acc  | M         | 4 <sup>105</sup> | 11              |     |     | Dvořáková in F3  |
| <i>Thlaspi occidentale</i> L.                               | Cupr  | t   | neo | cas | 4  | 2012    | r     | del  | AmN       |                  |                 |     |     | this study   |
| <i>Thymus drucei</i> Ronniger                               | Lami  | pe  | neo | cas | 4  | 1974    | r     | del  | E         |                  | 2               |     |     | Čáp 1982, Štěpánek & Tomšovic in F6                    |
| <i>Thymus vulgaris</i> L.                                   | Lami  | ss  | neo | cas | 4  |         | r     | del  | M         |                  |                 |     |     | Štěpánek & Tomšovic in F6                              |
| <i>Tilia tomentosa</i> Moench                               | Malv  | v   | neo | cas | 4  | 2001    | r     | del  | E         |                  |                 |     |     | Pyšek et al. 2002                                      |
| <i>Tolpis staticifolia</i> (All.) Sch. Bip.                 | Aster | pe  | neo | cas | 1  | 1873    | s+v   | acc  | E         |                  |                 |     |     | Štech in F7  |
| <i>Torilis arvensis</i> (Huds.) Link subsp. <i>arvensis</i> | Api   | a   | ar  | nat | 6  |         | r     | acc  | M         |                  | 6               |     |     | Hrouda in F5   |
| <i>Torilis nodosa</i> (L.) Gaertn.                          | Api   | a   | neo | cas | 1  |         | v     | acc  | M         |                  |                 |     |     | Hrouda in F5   |
| <i>Toxicodendron pubescens</i> Mill.                        | Anac  | s   | neo | nat | 11 | 1874    | r     | del  | AmN       |                  |                 |     |     | Skalická in F5   |
| <i>Trachyspermum ammi</i> (L.) Turrit                       | Api   | a   | neo | cas | 1  | 1903    | s+v   | acc  | anec      |                  |                 |     |     | Hadinec in A10   |

| Taxon   | Fam   | LH | Res | Inv | PG | Ist     | Abund | Path | Origin | Cover             | Hab | IEc | IEi | Source                                 |
|---|-------|----|-----|-----|----|---------|-------|------|--------|-------------------|-----|-----|-----|--|
| <i>Tragopogon dubius</i> Scop.  | Aster | a  | ar  | nat | 7  |         | sc    | acc  | M      | 1 <sup>34</sup>   | 6   |     |     | Kaplan in F7                           |
| <i>Tragopogon xmirabilis</i> Rouy   | Aster | pe | neo | nat | 7  | 1921    | r     | acc  | hybrid |                   |     |     |     | Kaplan in F7, Krahulec et al. 2005     |
| <i>Tragopogon porrifolius</i> L. subsp. <i>porrifolius</i>                      | Aster | a  | neo | cas | 4  | 1838    | r     | del  | M      |                   | 3   |     |     | Dostál 1989, Kaplan in F7              |
| <i>Tragus racemosus</i> (L.) All.   | Poac  | a  | neo | cas | 1  |         | r     | acc  | M      |                   | 2   |     |     | Kubát et al. 2002                      |
| <i>Tribulus terrestris</i> L.   | Zygo  | a  | neo | cas | 1  |         | r     | acc  | M      |                   | 2   |     |     | Jeslík 1974, Hroudá in F5, Lysák in A3 |
| <i>Trifolium alexandrinum</i> L.  | Faba  | a  | neo | cas | 4  | 1960    | v     | del  | anec   |                   |     |     |     | Kubát in F4, Grulich in A9             |
| <i>Trifolium alpinum</i> L.   | Faba  | pe | neo | cas | 4  | 1919    | s+v   | del  | E      |                   |     |     |     | Kubát in F4                            |
| <i>Trifolium angulatum</i> Waldst. et Kit.                                      | Faba  | a  | neo | cas | 4  | 1976    | v     | acc  | M      |                   |     |     |     | Kubát in F4                            |
| <i>Trifolium angustifolium</i> L.   | Faba  | a  | neo | cas | 1  | 1923    | s+v   | acc  | M      |                   |     |     |     | Kubát in F4                            |
| <i>Trifolium badium</i> Schreb.   | Faba  | pe | neo | nat | 9  | ca 1900 | s     | del  | E      |                   | 1   |     |     | this study                             |
| <i>Trifolium glomeratum</i> L.  | Faba  | a  | neo | cas | 1  | 1961    | v     | acc  | M      |                   |     |     |     | Kubát in F4                            |
| <i>Trifolium hybridum</i> L. subsp. <i>hybridum</i>                             | Faba  | b  | neo | nat | 17 | 1819    | c     | del  | anec   | 4 <sup>791</sup>  | 28  |     |     | Kubát in F4                            |
| <i>Trifolium incarnatum</i> L. subsp. <i>incarnatum</i>                         | Faba  | a  | neo | cas | 4  | 1870    | sc    | del  | M      |                   | 4   |     |     | Kubát in F4                            |
| <i>Trifolium leppaceum</i> L.   | Faba  | a  | neo | cas | 1  | 1916    | v     | acc  | M      |                   |     |     |     | Kubát in F4                            |
| <i>Trifolium ornithopodioides</i> L.  | Faba  | a  | neo | cas | 1  | 1960    | v     | acc  | M      |                   |     |     |     | Kubát in F4                            |
| <i>Trifolium pallidum</i> Waldst. et Kit.                                       | Faba  | a  | neo | cas | 1  | 1930    | v     | acc  | M      |                   |     |     |     | Kubát in F4                            |
| <i>Trifolium pannonicum</i> Jacq.   | Faba  | a  | neo | cas | 1  | 1919    | r     | del  | M      |                   |     |     |     | Kubát in F4                            |
| <i>Trifolium pratense</i> subsp. <i>americanum</i> (Harz) Soják                 | Faba  | pe | neo | cas | 4  | 1880    | v     | del  | anec   |                   |     |     |     | Hendrych 1968, Kubát in F4             |
| <i>Trifolium pratense</i> subsp. <i>sativum</i> (Schreb.) Schübl. et G. Martens | Faba  | pe | neo | cas | 5  |         | sc    | del  | anec   |                   |     |     |     | Kubát in F4                            |
| <i>Trifolium resupinatum</i> L.   | Faba  | a  | neo | cas | 4  | 1853    | r     | del  | M      |                   | 3   |     |     | Kubát in F4                            |
| <i>Trifolium squamosum</i> L.   | Faba  | a  | neo | cas | 1  | 1930    | v     | acc  | M      |                   |     |     |     | Kubát in F4                            |
| <i>Trifolium subterraneum</i> L.  | Faba  | a  | neo | cas | 1  | 1962    | r     | acc  | M      |                   |     |     |     | Kubát in F4                            |
| <i>Trifolium tomentosum</i> L.  | Faba  | a  | neo | cas | 1  | 1961    | v     | acc  | M      |                   |     |     |     | Kubát in F4                            |
| <i>Trifolium vesiculosum</i> Savi   | Faba  | a  | neo | cas | 4  | 2009    | s     | del  | E M    |                   |     |     |     | Řehořek in A10                         |
| <i>Trigonella caerulea</i> (L.) Ser.  | Faba  | a  | neo | cas | 3  | 1874    | v     | del  | M      |                   |     |     |     | Chrtková in F4                         |
| <i>Trigonella foenum-graecum</i> L.   | Faba  | a  | neo | cas | 3  | 1889    | v     | del  | anec   |                   |     |     |     | Chrtková in F4                         |
| <i>Tripleurospermum inodorum</i> (L.) Sch. Bip.                                 | Aster | a  | ar  | nat | 13 |         | c     | acc  | anec   | 4 <sup>2683</sup> | 30  |     |     | Kubát in F7                            |
| <i>Triticum aestivum</i> Aestivum Group   | Poac  | a  | ar  | cas | 5  |         | sc    | del  | anec   |                   | 11  |     |     | Dostál 1989, Kubát et al. 2002         |
| <i>Triticum turgidum</i> Dicoecum Group   | Poac  | a  | ar  | cas | 4  |         | r     | del  | anec   |                   |     |     |     | Dostál 1989, Kubát et al. 2002         |
| <i>Triticum turgidum</i> Polonicum Group  | Poac  | a  | neo | cas | 4  |         | r     | del  | anec   |                   | 2   |     |     | Dostál 1989, Kubát et al. 2002         |
| <i>Triticum turgidum</i> Turgidum Group   | Poac  | a  | neo | cas | 4  |         | r     | del  | anec   |                   | 2   |     |     | Dostál 1989, Kubát et al. 2002         |
| <i>Tropaeolum majus</i> L.  | Trop  | a  | neo | cas | 4  |         | r     | del  | anec   |                   |     |     |     | Bělohávková in F5                      |
| <i>Tulipa xgesneriana</i> L.  | Lili  | pe | neo | cas | 4  |         | sc    | del  | anec   |                   | 3   |     |     | Pyšek et al. 2002                      |
| <i>Tulipa sybestrís</i> L.  | Lili  | pe | neo | nat | 11 | 1867    | r     | del  | M      |                   | 6   |     |     | Bělohávková in F8                      |
| <i>Turgenia latifolia</i> (L.) Hoffm.   | Apiac | a  | ar  | cas | 2  |         | v     | acc  | M      |                   |     |     |     | Hroudá in F5                           |
| <i>Typha laxmannii</i> Lepech.  | Typh  | pe | neo | nat | 12 | 1968    | sc    | del  | E      |                   | 1   |     |     | Kubát in A10                           |
| <i>Ulex europaeus</i> L.  | Faba  | s  | neo | cas | 4  | 1880    | r     | del  | E      |                   |     |     |     | Skalická in F4                         |
| <i>Urtica pilulifera</i> L.   | Urti  | a  | neo | cas | 4  | 1872    | r     | del  | M      |                   |     |     |     | Chrtek in F1                           |
| <i>Urtica urens</i> L.  | Urti  | a  | ar  | nat | 13 |         | c     | acc  | M      | 6 <sup>103</sup>  | 7   |     |     | Chrtek in F1                           |

| Taxon   | Fam   | LH     | Res | Inv | PG | Ist   | Abund | Path | Origin      | Cover             | Hab | IEc | IEen | Source  |
|---|-------|--------|-----|-----|----|-------|-------|------|-------------|-------------------|-----|-----|------|---|
| <i>Vaccaria hispanica</i> (Mill.) Rauschert var. <i>hispanica</i>   | Cary  | a      | ar  | cas | 2  |       | v     | acc  | M           |                   | 1   |     |      | Šourková in F2  |
| <i>Vaccinium corymbosum</i> L.                                      | Eric  | s ss   | neo | cas | 4  | 2011  | s     | del  | AmN         |                   |     |     |      | this study  |
| <i>Valerianella dentata</i> (L.) Polllich subsp. <i>dentata</i>     | Vale  | a      | ar  | nat | 6  |       | sc    | acc  | M           | 2 <sup>600</sup>  | 5   |     |      | Holub 1978c, Kirschner in F5  |
| <i>Valerianella dentata</i> subsp. <i>eriosperma</i> (Waltl.) Holub | Vale  | a      | ar  | nat | 6  |       | r     | acc  | M           |                   |     |     |      | Hadač & Chrtěk 1968, Kirschner in F5                                      |
| <i>Valerianella rimosa</i> Bastard                                  | Vale  | a      | ar  | nat | 6  |       | r     | acc  | M           |                   | 2   |     |      | Kirschner in F5   |
| <i>Vallisneria spiralis</i> L.                                      | Hydro | pe aq  | neo | cas | 4  | 1920s | v     | del  | As          |                   |     |     |      | Husák et al. in F8  |
| <i>Verbascum niveum</i> subsp. <i>visianinum</i> (Rehb.) Murb.      | Scro  | b      | neo | cas | 1  | 1914  | r     | acc  | M           |                   |     |     |      | Kirschner in F6   |
| <i>Verbena bonariensis</i> L.                                       | Verb  | a (pe) | neo | cas | 4  | 1983  | r     | del  | AmS         |                   |     |     |      | Slavík in F6  |
| <i>Verbena ×hybrida</i> Groenland et Rümpler                        | Verb  | a      | neo | cas | 4  |       | r     | del  | anec        |                   | 8   |     |      | Slavík in F6  |
| <i>Verbena officinalis</i> L.                                       | Verb  | pe a   | ar  | nat | 6  |       | sc    | acc  | M           | 2 <sup>44</sup>   |     |     |      | Slavík in F6  |
| <i>Verbena peruviana</i> (L.) Britton                               | Verb  | ss     | neo | cas | 4  | 1853  | v     | del  | AmS         |                   |     |     |      | Slavík in F6  |
| <i>Verbena rigida</i> Spreng.                                       | Verb  | a (pe) | neo | cas | 4  | 1967  | r     | del  | AmS         |                   |     |     |      | Slavík in F6  |
| <i>Veronica agrestis</i> L.   | Plant | a      | ar  | nat | 6  |       | r     | acc  | M           | 2 <sup>71</sup>   | 4   |     |      | Hrouda in F6  |
| <i>Veronica arvensis</i> L.   | Plant | a      | ar  | nat | 13 |       | c     | acc  | M           | 2 <sup>1169</sup> | 29  |     |      | Hrouda in F6  |
| <i>Veronica filiformis</i> Sm.                                      | Plant | pe     | neo | nat | 15 | 1938  | sc    | del  | M           |                   | 14  | yes |      | Jehlík 1961, 1998a, Jehlík & Slavík 1967, Hrouda in F6, Pyšek et al. 2002 |
| <i>Veronica hederifolia</i> L.                                      | Plant | a      | ar  | nat | 13 |       | c     | acc  | M           | 6 <sup>290</sup>  | 21  |     |      | Hrouda in F6  |
| <i>Veronica incana</i> L. subsp. <i>incana</i>                      | Plant | pe     | neo | cas | 4  |       | r     | del  | E As        |                   |     |     |      | Trávníček 1998, Trávníček in F6   |
| <i>Veronica incana</i> × <i>V. maritima</i>                         | Plant | pe     | neo | cas | 4  | 1940  | s+v   | del  | hybrid      |                   |     |     |      | Trávníček in F6   |
| <i>Veronica opaca</i> Fr.   | Plant | a      | ar  | nat | 6  |       | r     | acc  | M           | 2 <sup>36</sup>   | 3   |     |      | Hrouda in F6, Fajmon in A3  |
| <i>Veronica peregrina</i> L. subsp. <i>peregrina</i>                | Plant | a      | neo | nat | 6  | 1809  | r     | acc  | AmN & C & S |                   |     |     |      | Hrouda in F6  |
| <i>Veronica persica</i> Poir.                                       | Plant | a      | neo | nat | 13 | 1809  | c     | acc  | M           | 4 <sup>1322</sup> | 15  |     | yes  | Hrouda in F6  |
| <i>Veronica polita</i> Fr.  | Plant | a      | ar  | nat | 13 |       | c     | acc  | M           | 3 <sup>505</sup>  | 8   |     |      | Hrouda in F6  |
| <i>Veronica triloba</i> (Opiz) Opiz                                 | Plant | a      | ar  | nat | 6  |       | r     | acc  | M           | 5 <sup>588</sup>  | 4   |     |      | Hrouda in F6  |
| <i>Veronica triphylos</i> L.  | Plant | a      | ar  | nat | 13 |       | sc    | acc  | M           | 5 <sup>132</sup>  | 11  |     |      | Hrouda in F6  |
| <i>Viburnum rhytidophyllum</i> Hemsl.                               | Adox  | s      | neo | cas | 4  |       | r     | del  | As          |                   |     |     |      | this study  |
| <i>Vicia angustifolia</i> L.  | Faba  | a      | ar  | nat | 13 |       | c     | acc  | M           | 2 <sup>552</sup>  | 24  |     |      | Chrtková in F4  |
| <i>Vicia articulata</i> Hornem.                                     | Faba  | a      | neo | cas | 4  | 1874  | r     | del  | M           |                   | 3   |     |      | Chrtková in F4  |
| <i>Vicia bithynica</i> (L.) L.                                      | Faba  | a      | neo | cas | 1  | 1949  | v     | acc  | M           |                   |     |     |      | Sutory 1976, Chrtková in F4   |
| <i>Vicia ervilia</i> (L.) Willd.                                    | Faba  | a      | ar  | cas | 3  |       | v     | del  | M           |                   |     |     |      | Chrtková in F4  |
| <i>Vicia faba</i> L.  | Faba  | a      | ar  | cas | 5  |       | r     | del  | anec        |                   |     |     |      | Chrtková in F4  |
| <i>Vicia grandiflora</i> Scop.                                      | Faba  | a      | neo | nat | 7  | 1877  | sc    | acc  | M           |                   | 2   |     |      | Chrtková in F4  |
| <i>Vicia lutea</i> L.   | Faba  | a      | neo | cas | 1  |       | r     | acc  | E M         |                   | 10  |     |      | Chrtková in F4  |
| <i>Vicia melanops</i> Sm.   | Faba  | a      | neo | cas | 1  | 1900  | v     | acc  | E M         |                   | 12  |     |      | Chrtková in F4  |
| <i>Vicia narbonensis</i> L.   | Faba  | a      | neo | cas | 4  |       | r     | del  | M           |                   |     |     |      | Chrtková in F4  |
| <i>Vicia onobrychioides</i> L.                                      | Faba  | pe     | neo | cas | 1  | 1980  | v     | acc  | M           |                   |     |     |      | Saul 1983, Chrtková in F4   |
| <i>Vicia pannonica</i> Crantz subsp. <i>pannonica</i>               | Faba  | a      | ar  | nat | 9  |       | sc    | del  | M           |                   |     |     |      | Chrtková in F4  |
| <i>Vicia pannonica</i> subsp. <i>striata</i> (M. Bieb.) Nyman       | Faba  | a      | ar  | nat | 7  |       | r     | acc  | M           |                   |     |     |      | Chrtková in F4  |
| <i>Vicia sativa</i> L.  | Faba  | a      | ar  | nat | 17 |       | c     | del  | M Af As     |                   | 24  |     |      | Chrtková in F4  |
| <i>Vicia villosa</i> Roth subsp. <i>villosa</i>                     | Faba  | a b    | ar  | nat | 17 |       | c     | del  | M           | 1 <sup>57</sup>   | 15  |     |      | Chrtková in F4  |

| Taxon   | Fam   | LH   | Res | Inv | PG | Ist  | Abund | Path | Origin | Cover            | Hab | IEc | IEi | Source  |
|---|-------|------|-----|-----|----|------|-------|------|--------|------------------|-----|-----|-----|---|
| <i>Viola villosa</i> subsp. <i>varia</i> (Host.) Corb.                    | Faba  | a    | ar  | nat | 17 | 1948 | c     | del  | M      |                  |     |     |     | Chrtková in F4  |
| <i>Viola canadensis</i> var. <i>rigulosa</i> (Greene) C. L. Hitchc.       | Viol  | pe   | neo | cas | 4  | 1948 | s+v   | del  | AmN    |                  |     |     |     | Kirschner & Štěpánek 1984, Kirschner & Skalický in F2 |
| <i>Viola cornuta</i> L.   | Viol  | pe   | neo | cas | 4  | 1959 | r     | del  | E      |                  |     |     |     | Skalický 1973, Kirschner & Skalický in F2             |
| <i>Viola cucullata</i> Aiton  | Viol  | pe   | neo | cas | 4  | 1895 | s+v   | del  | AmN    |                  |     |     |     | Kirschner & Štěpánek 1984, Kirschner & Skalický in F2 |
| <i>Viola x haynaldii</i> Wiesb.   | Viol  | pe   | neo | cas | 1  | 1886 | r     | acc  | hybrid |                  |     |     |     | Kirschner & Skalický in F2                            |
| <i>Viola x hungarica</i> Degen et Sabr.                                   | Viol  | pe   | ar  | cas | 1  |      | r     | acc  | hybrid |                  |     |     |     | Kirschner & Skalický in F2                            |
| <i>Viola x kerneri</i> Wiesb.   | Viol  | pe   | neo | cas | 1  | 1904 | v     | acc  | hybrid |                  |     |     |     | Kirschner & Skalický in F2                            |
| <i>Viola odorata</i> L.   | Viol  | pe   | ar  | nat | 17 |      | c     | del  | M      | 2 <sup>144</sup> | 21  | yes |     | Kirschner & Skalický in F2                            |
| <i>Viola x platicaulis</i> Borbás   | Viol  | pe   | ar  | cas | 1  |      | v     | acc  | hybrid |                  |     |     |     | Kirschner & Skalický in F2                            |
| <i>Viola x poaeiliana</i> Murr  | Viol  | pe   | ar  | cas | 1  |      | r     | acc  | hybrid |                  |     |     |     | Kirschner & Skalický in F2                            |
| <i>Viola x porphyrea</i> R. Uechtr.                                       | Viol  | pe   | ar  | cas | 1  |      | sc    | acc  | hybrid |                  |     |     |     | Kirschner & Skalický in F2                            |
| <i>Viola x scabra</i> F. Braun  | Viol  | pe   | ar  | nat | 13 |      | sc    | acc  | hybrid | 2 <sup>39</sup>  |     |     |     | Kirschner & Skalický in F2                            |
| <i>Viola septemloba</i> Leconte   | Viol  | pe   | neo | nat | 9  | 2003 | s     | del  | AmN    |                  |     |     |     | Kirschner & Skalický in F2                            |
| <i>Viola x sourekii</i> F. Proch.   | Viol  | b pe | neo | cas | 1  |      | r     | acc  | hybrid |                  |     |     |     | Sutový in A7  |
| <i>Viola suavis</i> M. Bieb. subsp. <i>suavis</i>                         | Viol  | pe   | neo | nat | 9  |      | r     | del  | M      |                  | 11  |     |     | Kirschner & Skalický in F2                            |
| <i>Viola tricolor</i> L. subsp. <i>tricolor</i>                           | Viol  | a    | ar  | nat | 13 |      | sc    | acc  | E      |                  | 12  |     |     | Kirschner & Skalický in F2, Fajmon in A7              |
| <i>Viola x vindobonensis</i> Wiesb.                                       | Viol  | pe   | neo | cas | 1  |      | r     | acc  | hybrid |                  |     |     |     | Kirschner & Skalický in F2                            |
| <i>Viola x witrockiana</i> Nauenb. et Buttler                             | Viol  | a b  | neo | cas | 4  | 1964 | sc    | del  | anec   |                  | 3   |     |     | Kirschner & Skalický in F2                            |
| <i>Vitis riparia</i> Michx.   | Vita  | s    | neo | cas | 4  |      | r     | del  | AmN    |                  |     |     |     | Kobřížek in F5  |
| <i>Vitis vinifera</i> L. subsp. <i>vinifera</i>                           | Vita  | s    | ar  | cas | 5  |      | r     | del  | anec   |                  | 5   |     |     | Kobřížek in F5  |
| <i>Vulpia bromoides</i> (L.) Gray   | Poac  | a b  | ar  | nat | 6  |      | r     | acc  | M      |                  | 4   |     |     | Kubát et al. 2002                                     |
| <i>Vulpia ciliata</i> Dumort.   | Poac  | a    | neo | cas | 1  |      | r     | acc  | M      |                  |     |     |     | Kubát et al. 2002                                     |
| <i>Vulpia ligustica</i> (All.) Link                                       | Poac  | a    | neo | cas | 1  |      | r     | acc  | M      |                  |     |     |     | Kubát et al. 2002                                     |
| <i>Vulpia myuros</i> (L.) C. C. Gmel.                                     | Poac  | a b  | ar  | nat | 7  |      | sc    | acc  | M      |                  | 4   |     |     | Kubát et al. 2002                                     |
| <i>Waldsteinia geoides</i> Willd.   | Rosa  | pe   | neo | cas | 4  |      | s     | del  | E      |                  |     |     |     | Smejkal in F4   |
| <i>Waldsteinia ternata</i> subsp. <i>trifolia</i> (W. D. J. Koch) Teppner | Rosa  | pe   | neo | cas | 4  |      | s     | del  | E      |                  |     |     |     | Smejkal in F4   |
| <i>Xanthium albumin</i> (Widder) H. Scholtz et Sukopp                     | Aster | a    | neo | nat | 8  | 1851 | la    | acc  | AmN    |                  | 6   |     |     | Havlíček in F7  |
| <i>Xanthium x kostalii</i> Toel   | Aster | a    | neo | cas | 1  | 1854 | r     | acc  | hybrid |                  |     |     |     | Havlíček in F7  |
| <i>Xanthium orientale</i> L.  | Aster | a    | neo | cas | 1  | 1965 | s     | acc  | AmN    |                  |     |     |     | Havlíček in F7  |
| <i>Xanthium ripicola</i> Holub  | Aster | a    | neo | cas | 1  | 1887 | r     | acc  | E      |                  |     |     | yes | Havlíček in F7  |
| <i>Xanthium spinosum</i> L.   | Aster | a    | neo | cas | 2  | 1830 | r     | acc  | AmS    |                  | 2   |     |     | Havlíček in F7  |
| <i>Xanthium strumarium</i> L.   | Aster | a    | ar  | cas | 2  |      | r     | acc  | E M    |                  | 8   |     |     | Havlíček in F7  |
| <i>Xerochrysum bracteatum</i> (Vent.) Tzvelev                             | Aster | a    | neo | cas | 4  | 1991 | s     | del  | Au     |                  |     |     |     | Růžička & Zlámalík 1997                               |
| <i>Zea mays</i> L.  | Poac  | a    | neo | cas | 5  |      | sc    | del  | anec   |                  |     |     |     | Dostál 1989, Kubát et al. 2002                        |
| <i>Zelkova serrata</i> (Thunb.) Makino                                    | Uma   | t    | neo | cas | 4  | 1973 | s     | del  | As     |                  |     |     |     | Pyšek et al. 2002                                     |
| <i>Zinnia elegans</i> Jacq.   | Aster | a    | neo | cas | 4  |      | r     | del  | AmS    |                  |     |     |     | Bělohávková in F7                                     |