



Original article

## The alien fraction of the flora of Seymskiy Regional Landscape Park, Sumy Oblast, Ukraine

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### ABSTRACT

The adventive fraction of the flora of Seymskiy Regional Landscape Park (Sumy Oblast, Ukraine) including 237 species of 183 genera and 62 families, is described. Its systematic and biomorphological structures was analyzed. The major families, namely Asteraceae, Poaceae, Brassicaceae, Fabaceae, Rosaceae, Lamiaceae, Boraginaceae, Chenopodiaceae, Solanaceae and Malvaceae are represented by 152 species (64.1% of the alien fraction). Therophytes (49.4%), hemicryptophytes (28.7%) and phanerophytes (17.7%) were found to be the prevailing life forms in the alien flora of the park. According to the time of immigration, kenophytes (69%) predominate among alien species of the park. The most common species belonged to the group native of North America (23.2%), the Mediterranean (21%), Asian (17.7%) and Mediterranean-Iran-Turanian (11.4%). Xenophytes (54.4%) predominated by way of penetration into the territory, ergasiophytes were represented by 39.6% and xeno-ergasiophytes by 5.9% of the species. According to the degree of naturalization epoecophytes (30%) and agrio-epoecophytes (27.8%) had high ranked positions as part of the alien flora and there are slightly less ephemerophytes (14.8%), colonophytes (14.3%), agriophytes (6.8%) and ergasiophygophytes (6.3%). At the time of the survey, we considered 162 species as naturalized, 50 taxa as casuals, 16 species as potentially invasive, and 9 as those of invasive status. The obtained data indicated the need for action to stop the increase in the adventive species within the park's flora in order to reduce their negative impact on natural habitats and the native flora.

KEY WORDS: alien plants, synanthropization, kenophytes, archaeophytes

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### 1. Introduction

Since recently, studies on the non-native component of a country's flora became one of the main directions in botanical science due to intensified adventization of the plant cover. The issue of alien plants attracts the attention of researchers in many countries of the world wide (e.g. PYŠEK ET AL., 2002, 2022 (Czech Republic); FOXCROFT ET AL., 2003 (South African Republic); LAMBDon ET AL., 2008 (Europe); BLACK DATA BOOK..., 2020 (Belarus); NAYAK, 2020 (India); OMER ET AL., 2021 (Sudan and South Sudan); TOKARSKA-GUZIŁ ET AL., 2021 (Poland); PATZELT ET AL., 2022 (Oman)), as well as in Ukraine (PROTOPOPOVA, 1973; 1991; PROTOPOPOVA ET AL., 2003; PROTOPOPOVA & SHEVERA, 2019), where

the study of adventive plants at the regional level is of special importance (MELNIK, 2009; DVIRNA, 2014; KUCHER, 2016); in particular, the alien flora of some protected areas becomes a separate subject of the study (BURDA, 2007; LYUBINSKA, 2009; PASHKEVICH ET AL. 2014; BURDA ET AL., 2015; ZAVIALOVA, 2017; MISKOVA, 2020, 2021, 2022).

The local flora of protected areas serves, as the structural and functional benchmarks of natural zonal units of the vegetation cover of a certain territory, and represents the biota of the natural-climatic zone with the least anthropogenic transformation in the cultural-historical region at a specific period of time. In recent years, the influence of alien species has threatened the ability

of the nature reserve's vegetation to maintain its reference value (BURDA ET AL., 2015).

In the study of the resistance to plant invasion of the territories of the protected areas, which are located within the borders of the East European Plain, it was proven that the adventization coefficient (percentage of alien species from the total species wealth) depends on various factors, in particular, the duration of protection, the degree of anthropogenic transformation of ecosystems at the time of the declaration of protection, the state of adjacent ecosystems, and the way of nature use (BURDA, 2007).

Seymskiy Regional Landscape Park is a relatively new nature conservation area, which was declared as an item on the list of nature reserves in 1995. A specific study of the adventive flora of the park has not previously been undertaken, but in recent years there has been fragmentary information, including studies of invasive species in different types of biotopes, reports of floristic finds and studies of ergasiophytes (MISKOVA, 2020, 2021, 2022). Therefore, the aim of our study was to list the alien species of plants within the flora of the park and to analyse this data.

## 2. Study area

Seymskiy Regional Landscape Park is the largest item on the nature reserves list for the northern part of Ukraine, and has an area of 988.6 square kilometers. According to physical and geographical zoning, most of the territory of the park belongs to the Forest Steppe zone of the East European Plain (MARYNYCH ET AL., 2003). In line with the floristic zoning, it belongs to the Middle Russian forests and the Left Bank Forest Steppe (HELUTA, 1989). In the system of geobotanical zoning the studied area is located within the European broad-leaved zone and Forest Steppe subregion of the Eurasian Steppe (DIDUKH & SHELYAH-SOSONKO, 2003).

The park is located in the west-central part of the Sumy Oblast within the boundaries of the Konotop district on the floodplain and supra floodplain terraces of the River Seym (Fig. 1). The main area is occupied by forests of various types (coniferous, broad-leaved, broad-leaved-coniferous). Meadow steppes and steppe meadows, true, marshy and peaty meadows in a complex with eutrophic swamps, coastal-water and wetland floristic complexes are also represented in the study area (NATSIONALNYI..., 2007).

The territory of the park is one of the key elements of the National Eco-Network (ROZBUDOVA..., 1999),

the Emerald Network in Ukraine (SMARAHDOVA..., 2011) and the regional eco-network.

Seymskiy Regional Landscape Park includes state land, communal and private ownership, and its territory is divided into protected (1.7%), recreational (3.18%) and economic (95.12%) zones (BOYCHENKO ET AL., 2019). The predominance of the economic zones contributes to the significant impacts of anthropogenic factors on the dynamics of the flora of the park. In particular, we highlight such elements as the intensive exploitation of agricultural land, active freight traffic by road and railway, recreational impact, introduction of alien species directly in the economic zone, and the ruderalization of natural habitats. The negative impact of hostilities since the beginning of the full-scale invasion of the Russian Federation into Ukraine and their consequences are also a factor in the spread of alien plants and the entry of new ones.



Fig. 1. Map of the location of the study area

## 3. Materials and methods

This article is based on the results of the floristic research of the author, obtained during the period 2018–2022 in the territory of Seymskiy Regional Landscape Park and on the processed herbarium collections of M.G. Kholodny Institute of Botany, NAS of Ukraine (KW), M.M. Hryshko National Botanical Garden, NAS of Ukraine (KWA), A.V. Fomin Botanical Garden, Nizhyn Gogol State University (NZHU) and Putyvl State Historical and Cultural Reserve. Data from literary sources and electronic databases (iNaturalist, UkrBIN, GBIF) have also been utilised. Comparative morphological-geographical and route research methods were used in the work. To analyze the systematic structure of the adventive flora of the park, the taxonomic nomenclature of plants according to MOSYAKIN & FEDORONCHUK (1999) was used. In the list of species in Appendix 1, we have taken into account both traditional and new taxonomic nomenclature of plants according to Plants of the World Online. The research was carried

out according to the approaches and methods generally accepted in comparative floristics: the systematic structure of the flora is given according to **TOLMACHEV** (1974), the classification of life forms is presented according to **RAUNKIÆR** (1905), and the geographical structure is given according to **TAKHTADZHIAN** (1978). Various approaches have been used to determine the degree of naturalization (**RIKLI**, 1903; **NAEGELI & THELLUNG**, 1905; **KAMYSHEV**, 1959; **KORNAŚ**, 1968; **RICHARDSON**, 2000).

#### 4. Results

According to the results of the study, the species composition of the alien fraction of the flora of Seymskiy Regional Landscape Park was established, and included 237 species belonging to 183 genera

and 62 families (Appendix 1). This is approximately 24% of the total flora of the park. The main part of the floristic spectrum of the investigated fraction of the flora consisted of the following leading families: Asteraceae (46 spp.), Poaceae (19), Brassicaceae (18), Fabaceae (15), Rosaceae (15), Lamiaceae (13), Boraginaceae (7), Chenopodiaceae (7), Solanaceae (7), Malvaceae (5). Of these there were 83 species concentrated in the first three families. In total, the main families included 152 species, which was 64.1% of the alien fraction (Table 1). The rest of the families include each from 4 to 1 non-native species in the studied area: one family is represented by four species, eight families by three species each, 14 families contain two species each, and 29 a single species.

Table 1. Distribution of species and genera of the adventive flora of Seymskiy Regional Landscape Park within the main families

№	Families	Genera		Species	
		Number of alien taxa	% of all alien taxa	Number of alien taxa	% of all alien taxa
1	Asteraceae	31	13.1	46	19.4
2	Poaceae	15	6.3	19	8
3	Brassicaceae	15	6.3	18	7.6
4	Fabaceae	10	4.2	15	6.3
5	Rosaceae	11	4.6	15	6.3
6	Lamiaceae	10	4.2	13	5.5
7	Boraginaceae	7	3	7	3
8	Chenopodiaceae	4	1.7	7	3
9	Solanaceae	7	3	7	3
10	Malvaceae	4	1.7	5	2.1
	Total	114	62.2	152	64.1

The analysis of the generic spectrum of the investigated flora fraction established that the first two ranked places were occupied by *Vicia* (5 sp.) and *Prunus* (4), and the third ranked was represented by 11 genera: *Amaranthus*, *Atriplex*, *Bromus*, *Centaurea*, *Erigeron*, *Juglans*, *Lamium*, *Oenothera*, *Portulaca*, *Sisymbrium*, *Sonchus*, each of which has three species. In total 25 genera were represented by two species and the rest by one species.

Based on their primary range, it was established that the adventive fraction of the flora of Seymskiy Regional Landscape Park can be divided into 13 groups (Table 2). The main ranked positions belong to the species which were North American (55; 23.2%), Mediterranean (50; 21%), Asian (42; 17.7%) and Mediterranean-Iran-Turanian (27; 11.4%) in origin, which is also characteristic of the alien flora of Ukraine. European (15; 10.5%), Iranian-Turanian (11; 4.6%), South American (5; 2.1%), Eurasian (4; 1.7%), European-Mediterranean (4; 1.7%), Central and Eastern American (4; 1.7%), European-

Mediterranean-Asian (2; 0.8%), Mediterranean-Asian (2; 0.8%), and Mediterranean-African-Asian (1; 0.4%) species have a much smaller share.

According to their time of entry into the flora, kenophytes (neophytes) (164 species; 69%) prevail in the studied fraction of the flora of the park, and archaeophytes numbered 73 (31%) species. It was established that xenophytes predominate by way of penetration into the territory – species that they accidentally entered the study area, their number is 129 (54.4%). In second place were ergasiophytes (94 in number (39.6%), these plants were deliberately introduced from other regions, which subsequently became naturalised and spread independently. Of the species that were cultivated in neighbouring regions that could have been introduced into the study area in various ways – xeno-ergasiophytes were represented by 14 species (5.9%). Therefore, the role of introduced species was noticeable in the studied flora.

Table 2. Distribution of species of adventive flora of Seymskiy Regional Landscape Park by origin

№	Group of ranges	Origin of species	Number of alien taxa	% of all alien taxa
1	North American	North American	55	23.2
2	Mediterranean	Mediterranean	43	18.1
		Eastern Mediterranean	4	1.7
		Western Mediterranean	2	0.8
		Northern Mediterranean	1	0.4
3	Asian	Asian	15	6.3
		East Asian	12	5.1
		Southeast Asian	8	3.4
		Siberian	2	0.8
		Central Asian	3	1.3
		North Asian	1	0.4
		Siberian Asian	1	0.4
4	Mediterranean- Iranian-Turanian	Mediterranean-Iranian-Turanian	27	11.4
5	European	South European	5	2.1
		European	4	1.7
		Central European	4	1.7
		Western European	2	0.8
6	Iranian-Turanian	Iranian-Turanian	10	4.2
		Iranian-Turanian-Pontic	1	0.4
7	South American	South American	5	2.1
8	Eurasian	Eurasian	3	1.3
		Balkan-Central-Asian	1	0.4
9	Other groups	European-Mediterranean	4	1.7
		Central and Eastern American	4	1.7
		European-Mediterranean-Asian	2	0.8
		Mediterranean-Asian	2	0.8
		Mediterranean-African-Asian	1	0.4
10	Unknown		9	3.8
11	Hybrid origin		6	2.5
Total			237	100.0

Analysis of the adventive fraction of the flora of the park by its degree of naturalization made it possible to distinguish 6 groups of plants. Epocophytes (71; 30%) and agrio-epocophytes (66; 27.8%) have stable positions in the flora, which reflects a significant anthropogenic influence in this territory and these are represented mainly by xenophytes, some of which show an invasive capacity (Figs. 2; 3). The appearance of ephemerophytes (35; 14.8%) is associated with the introduction of plants into the region, but they have not yet passed the reproductive barrier and are unable to sustain their existence. Colonophytes (34; 14.3%) are primarily represented by ergasiophytes, which are able to maintain their existence without repeated introduction of diaspores but are not widely distributed in the

territory. Xenophytes predominate among agriophytes (16; 6.8%), among them are invasive and potentially invasive plants. Their share is not large compared to others, so this is a small group of plants for distribution and naturalization for which the conditions of the study region are favourable. Ergasiophygophytes (15; 6.3%) are concentrated near places of cultivation, they also include the recent escape of introduced cases in the region (Figs. 2; 3).

In general, a stable component of the alien flora, to which belong epocophytes, agrio-epocophytes, colonophytes and agriophytes, consists of 187 species, and the unstable component, which includes ephemerophytes and ergasiophygophytes, includes 50 species (Fig. 3).

As a result of the research conducted, it was established that according to Raunkiær's life-form classification, therophytes (117; 49.4%), hemi-cryptophytes (68; 28.7%) and phanerophytes (42; 17.7%) prevailed in the flora. There was a small representation of geophytes (5; 2.1%), chamaephytes (4; 1.7%) and hydrophytes (1; 0.4%) (Fig. 4).

There were four abundance types of species in the wild in the study region: very rare (1-5 localities), rare (6-10), sporadic (11-20), and often (more than 20). The largest share of the species

occur sporadically (70; 29.5%), these are mainly naturalized (59; 24.9%). 59 (24.9%) species occur very rarely, these are both casual (31; 13%) and naturalized (28; 11.8%). 55 (23.2%) often occurring species were recorded, the basis of which is naturalized species (38; 16%), as well as potentially invasive (10; 4.2%) and invasive (7; 2.9%) species 53 (22.4%) species have a rare frequency of occurrence, and they are naturalized (37; 15.6%) and casual (16; 6.7%).

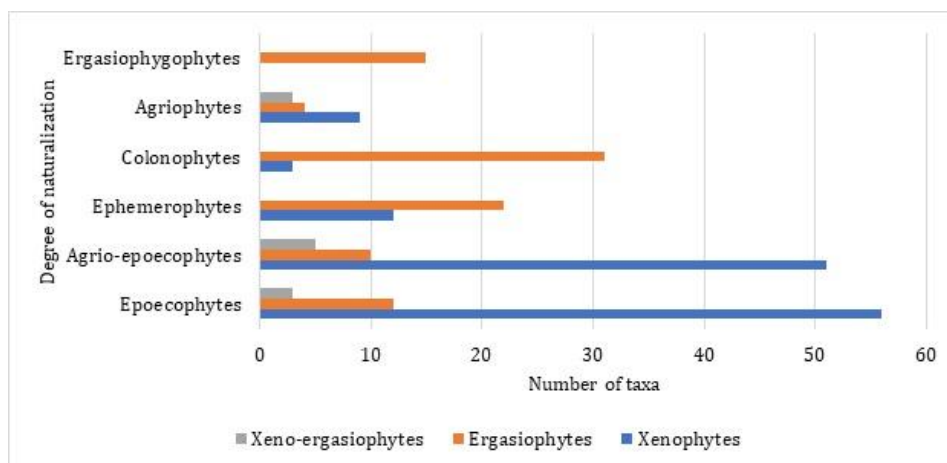


Fig. 2. Distribution of alien plants of Seymskiy Regional Landscape Park according to the degree of naturalization and the method of penetration into the territory

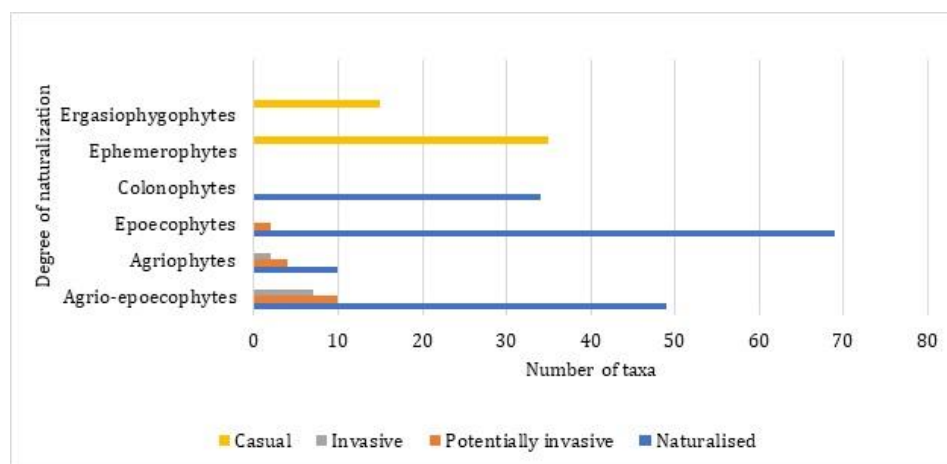


Fig. 3. Distribution of the alien plants of Seymskiy Regional Landscape Park according to the degree of naturalization and ability to overcome distribution barriers

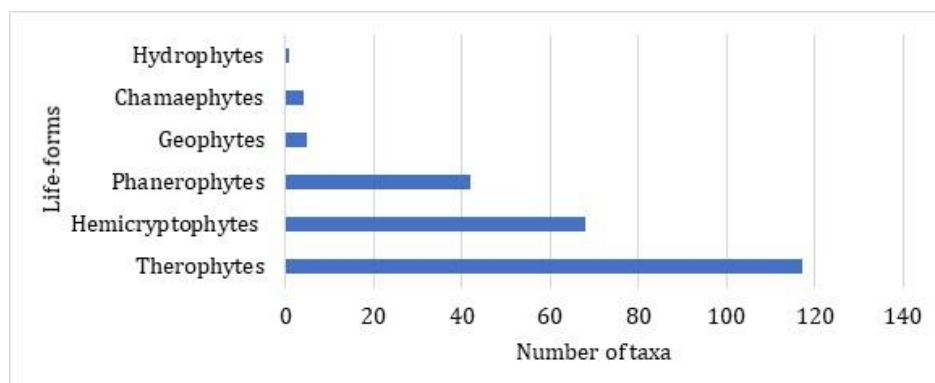


Fig. 4. Distribution of alien plants of Seymskiy Regional Landscape Park by Raunkiær life-form classification

## 5. Discussion

The spectrum of the main families of the adventive fraction of the flora of the park corresponds to that of the flora of Ukraine (PROTOPOPOVA, 1991) and its adjacent territory with similar natural conditions (DVIRNA, 2014) according to the main three families, but it is distinguished by the presence of the family Rosaceae and the low rank position of the family Chenopodiaceae. In comparison with other protected areas, which are located in the Sumy Oblast (PANCHENKO, 2005) and neighboring regions (LYUBINSKA, 2009; PASHKEVICH ET AL., 2014; KOVALENKO, 2016) the ranking of the main families of the alien fraction of the park is somewhat similar, but has some peculiarities (Table 3).

The spectrum of main ranked families reflects the influence, on one hand, of the Holarctic flora and on another, of the ancient Mediterranean flora on the formation of the adventive component of the flora of the region; accordingly, it is expressed by the high positions of Asteraceae, Poaceae, Rosaceae and Brassicaceae, Fabaceae, Lamiaceae respectively. The results obtained from analysis of the geographical structure indicate the successful naturalization of both species with a transcontinental type of range and species from adjacent floristic regions, which is manifested in the high ranked positions of species from the Ancient Mediterranean region.

The dominance of xenophytes is characteristic of the alien flora of Ukraine and its regions (PROTOPOPOVA, 1991; MELNIK, 2009; DVIRNA, 2014; KUCHER, 2016). Ergasiophytes make up 9% of the flora of Seymskiy Regional Landscape Park and 20.5% of ergasiophytes of the flora of Ukraine (PROTOPOPOVA & SHEVERA, 2014; MYSKOVA, 2022). They are an important source of seeds replenishing the flora of the park. Among the studied fraction, 46 (19.4%) species belong to the group of highly active invasive plants of Ukraine (PROTOPOPOVA & SHEVERA, 2019). It is important that these species are monitored (Fig. 5).

The biomorphological structure of the alien flora of Seymskiy Regional Landscape Park has indicators that are characteristic of the adventive flora of Ukraine (PROTOPOPOVA, 1991) and also the adventive flora of other regions (MELNIK, 2009; DVIRNA, 2014; KUCHER, 2016). The high proportion of phanerophytes is due to the fact of their cultivation and naturalisation is widespread in the region (MYSKOVA, 2022).

The distribution by type of abundance in the wild within the park area shows that naturalized, potentially invasive and invasive species are the most common alien species in the park, and casual species are much less common.

Table 3. Comparison of the spectra of the main families of the alien fraction of the flora of the Seymskiy Regional Landscape Park with other regions

№	Families	I	II	III	IV	V	VI
1	Asteraceae	1	1	1	1	1	1
2	Poaceae	2	3	3	4	4	4
3	Brassicaceae	3	2	2	2	2	2
4	Fabaceae	4	4	5	3	5	3
5	Rosaceae	5	-	-	8	7	9
6	Lamiaceae	6	7	6	6	6	6
7	Boraginaceae	7	8	7	5	-	8
8	Chenopodiaceae	8	5	4	8	3	5
9	Solanaceae	9	-	10	7	-	10
10	Malvaceae	10	-	9	7	-	-

The ranked position of the families of the alien fraction of the flora of: I – Seymskiy Regional Landscape Park; II – Ukraine; III – Romensko-Poltavsky Geobotanical District; IV – Mezynskiy National Nature Park; V – Desna-Starohutskiy National Nature Park; VI – Pyriatyn National Nature Park

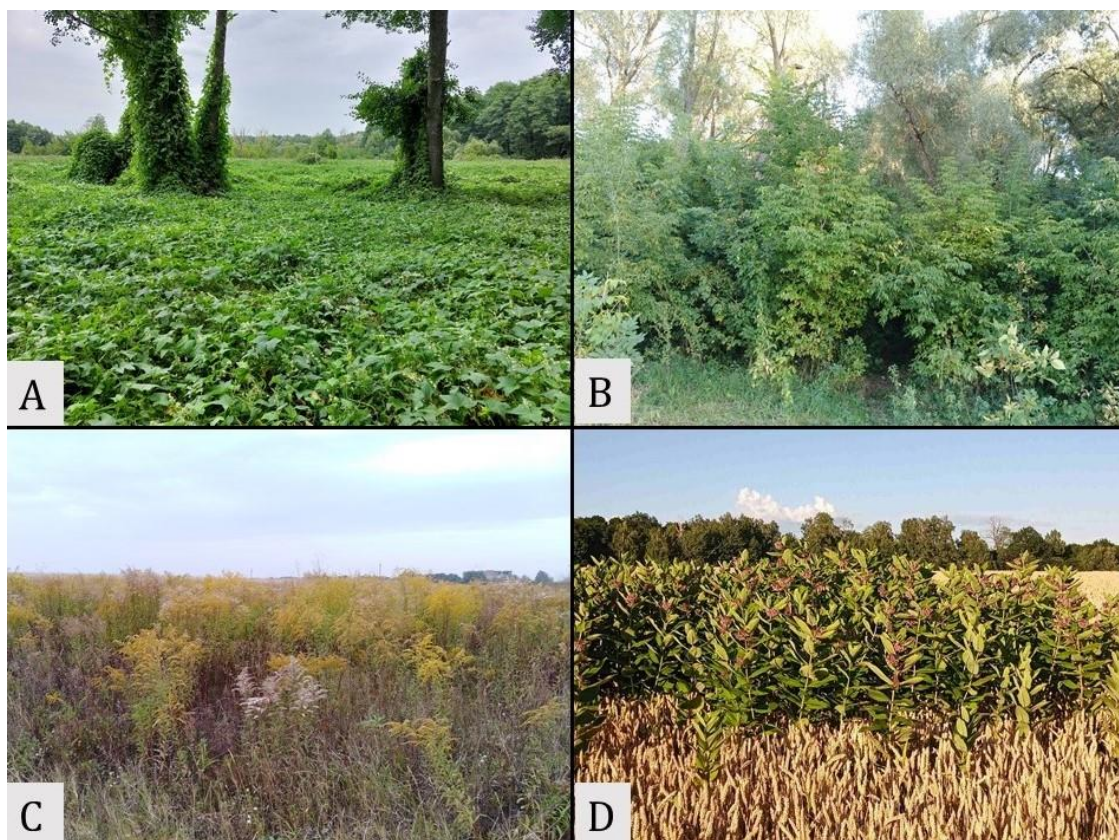


Fig. 5. Alien plants of the Seymskiy Regional Landscape Park: A – *Echinocystis lobata* (Michx.) Torr. & Gray, B – *Acer negundo* L., C – *Solidago canadensis* L. (photos A, B & C by O. Miskova), D – *Asclepias syriaca* L. (photo by S. Motornyj)

## 6. Conclusions

The species composition of the adventive fraction of the flora of Seymskiy Regional Landscape Park has been established and its features were clarified. In general, the spectra of the main families and life forms correspond with the alien fraction of the flora of Ukraine. 35% of the species composition of this group is concentrated in the first three main families; the generic spectrum is not clearly expressed. Kenophytes significantly predominate according to the time of introduction and xenophytes according to the method of introduction, which is typical for adventive fraction of the flora of Ukraine. The majority of the alien plants of the park are of North American and Mediterranean origin. The study area is characterized by the predominance of species of a stable component (epoecophytes, agrio-epoecophytes, agriophytes and colonophytes) to the degree of naturalization. This indicates that the adventitious fraction has a sustainable and a relatively old position in the flora of the studied park.

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Appendix 1. The list of the alien fraction of Seymskiy Regional Landscape Park

Taxa and families are presented according to POWO and also according to the "Vascular Plants of Ukraine. A Nomenclatural Checklist" (Mosyakin, Fedoronchuk, 1999) in brackets. Family codes are formed by initial letters of the family name. The following information is provided in the table: 1 – residence time status (A – archaeophyte; K – kenophyte); 2 – region of origin (Am – American, As – Asian, Eur – European, Ir – Iranian, Tur – Turanian, Med – Mediterranean, Bal – Balkan, Pon – Pontic, Sib – Siberian, C – Central, E – Eastern, W – Western, N – Northern, S – Southern, H – Hybrid, Unk – Unknown); 3 – way of penetration into the territory (Xen – xenophyte, Erg – ergasiophyte, Xen-Erg – xeno-ergasiophyte); 4 – degree of naturalization (Agr – agriophyte, Agr-Ep – agrio-epoecophyte, Ep – epoecophyte, Col – colonophyte, Eph – ephemeroophyte, Erg – ergasiophygophyte); 5 – life-form by Raunkiær (Ch – chamaephyte, G – geophyte, Hem – hemicryptophyte, H – hydrophyte, Ph – phanerophyte, Th – therophyte); 6 – abundance type in the wild in the region (Of – often, R – rarely, Sp – sporadically, VR – very rarely); 7 – invasion status (Cas – casual, Nat – naturalized, Inv – invasive, Pot Inv – potentially invasive).

Taxon	Family	1	2	3	4	5	6	7
<i>Acer negundo</i> L.	Sapi (Acer)	K	NAm	Xen-Erg	Agr	Ph	Of	Inv
<i>Acorus calamus</i> L.	Acor (Arac)	A	SEAs	Xen-Erg	Agr	Hem	Sp	Pot Inv
<i>Aegilops cylindrica</i> Host	Poac	K	Med	Xen	Eph	Th	VR	Cas
<i>Aesculus hippocastanum</i> L.	Sapi (Hipp)	K	Med	Erg	Col	Ph	R	Nat
<i>Aethusa cynapium</i> L.	Api	A	CEur	Xen	Ep	Th	VR	Nat
<i>Alcea rosea</i> L.	Malv	K	Med	Erg	Erg	Hem	R	Cas
<i>Allium sativum</i> L.	Amary (Alli)	K	CAs	Erg	Col	G	R	Nat
<i>Althaea officinalis</i> L.	Malv	A	Ir-Tur	Xen	Agr	Hem	Of	Nat
<i>Amaranthus albus</i> L.	Amara	K	NAm	Xen	Eph	Th	VR	Cas
<i>Amaranthus cruentus</i> L.	Amara	K	C and E Am	Xen-Erg	Ep	Th	VR	Nat
<i>Amaranthus retroflexus</i> L.	Amara	K	NAm	Xen	Agr-Ep	Th	Of	Pot Inv
<i>Ambrosia artemisiifolia</i> L.	Aster	K	NAm	Xen	Agr-Ep	Th	Of	Inv
<i>Amelanchier spicata</i> (Lam.) K. Koch	Rosa	K	NAm	Erg	Agr-Ep	Ph	VR	Nat
<i>Amorpha fruticosa</i> L.	Faba	K	NAm	Erg	Agr	Ph	Sp	Pot Inv
<i>Anagallis arvensis</i> L.	Prim	A	SEAs	Xen	Ep	Th	Of	Nat
<i>Anchusa officinalis</i> L.	Bora	A	Eur-Med	Xen	Ep	Hem	R	Nat
<i>Anisantha tectorum</i> (L.) Nevski	Poac	A	Med-Ir-Tur	Xen	Agr-Ep	Th	Of	Pot Inv
<i>Anthemis arvensis</i> L.	Aster	A	Med	Xen	Agr-Ep	Th	Sp	Nat
<i>Anthemis cotula</i> L.	Aster	A	Med	Xen	Agr-Ep	Th	Of	Nat
<i>Apera spica-venti</i> (L.) P. Beauv.	Poac	A	Unkn	Xen	Agr-Ep	Th	Of	Pot Inv
<i>Arabidopsis thaliana</i> (L.) Heynh.	Bras	K	Med-Ir-Tur	Xen	Ep	Th	Of	Nat
<i>Armoracia rusticana</i> P. Gaertn., Mey. et Scherb.	Bras	K	Ir-Tur	Erg	Col	Hem	Sp	Nat
<i>Aronia melanocarpa</i> (Michx.) Elliot	Rosa	K	NAm	Erg	Col	Ph	R	Nat
<i>Arrhenatherum elatius</i> (L.) P.Beauv. ex J.Presl & C.Presl.	Poac	K	WEur	Xen-Erg	Col	Hem	R	Nat
<i>Artemisia absinthium</i> L.	Aster	A	Ir-Tur	Xen	Agr-Ep	Hem	Of	Nat
<i>Artemisia annua</i> L.	Aster	K	EAs	Xen-Erg	Ep	Th	R	Nat
<i>Asclepias syriaca</i> L.	Apoc (Ascl)	K	NAm	Xen-Erg	Agr-Ep	Hem	Of	Pot Inv
<i>Asperugo procumbens</i> L.	Bora	A	Med	Xen	Ep	Th	VR	Nat
<i>Aster novae-angliae</i> L.	Aster	K	NAm	Erg	Erg	Hem	R	Cas
<i>Aster novae-belgii</i> L.	Aster	K	NAm	Erg	Erg	Hem	R	Cas
<i>Atriplex prostrata</i> Boucher ex DC.	Amara (Cheno)	A	Med-Ir-Tur	Xen	Agr-Ep	Th	Of	Nat
<i>Atriplex sagittata</i> Borkh.	Amara (Cheno)	A	Eur-Med-As	Xen	Ep	Th	Sp	Nat
<i>Atriplex tatarica</i> L.	Amara (Cheno)	K	Med-As	Xen	Ep	Th	Of	Nat
<i>Avena sativa</i> L.	Poac	K	SEur	Erg	Eph	Th	R	Cas
<i>Ballota nigra</i> L.	Lami	A	Med-Ir-Tur	Xen	Agr-Ep	Hem	Of	Nat
<i>Berberis vulgaris</i> L.	Berb	K	EAs	Erg	Agr-Ep	Ph	R	Nat
<i>Bidens frondosa</i> L.	Aster	K	NAm	Xen	Agr-Ep	Th	Of	Nat
<i>Borago officinalis</i> L.	Bora	K	Med	Erg	Erg	Hem	VR	Cas

<i>Brassica napus</i> L.	Bras	K	SEur	Erg	Erg	Th	VR	Cas
<i>Bromus arvensis</i> L.	Poac	A	Med-Ir-Tur	Xen	Agr-Ep	Th	R	Nat
<i>Bromus commutatus</i> Schrad.	Poac	K	CEur	Xen	Ep	Th	R	Nat
<i>Bromus squarrosus</i> L.	Poac	K	Med-Ir-Tur	Xen	Ep	Th	Sp	Nat
<i>Bryonia alba</i> L.	Cucu	K	Med-Ir-Tur	Erg	Eph	Hem	VR	Cas
<i>Buglossoides arvensis</i> (L.) I.M.Johnst. ( <i>Lithospermum arvense</i> L.)	Bora	A	Med-Ir-Tur	Xen	Ep	Th	R	Nat
<i>Bunias orientalis</i> L.	Bras	K	Eur	Xen	Ep	Hem	Sp	Nat
<i>Calendula officinalis</i> L.	Aster	K	Med	Erg	Ep	Th	R	Nat
<i>Callistephus chinensis</i> (L.) Nees	Aster	K	As	Erg	Eph	Th	VR	Cas
<i>Cannabis sativa</i> L.	Cannab	K	EAs	Erg	Agr-Ep	Th	R	Nat
<i>Capsella bursa-pastoris</i> (L.) Medic.	Bras	A	WMed	Xen	Agr-Ep	Hem	Of	Pot Inv
<i>Caragana arborescens</i> Lam.	Faba	K	NAs	Erg	Agr-Ep	Ph	Sp	Nat
<i>Carduus acanthoides</i> L.	Aster	A	Med	Xen	Agr-Ep	Th	Of	Nat
<i>Carduus nutans</i> L.	Aster	A	Med	Xen	Agr-Ep	Hem	Sp	Nat
<i>Centaurea cyanus</i> L.	Aster	A	Med	Xen	Ep	Th	Of	Nat
<i>Centaurea diffusa</i> Lam.	Aster	K	Med-Ir-Tur	Xen	Ep	Hem	R	Nat
<i>Centaurea diffusa</i> x <i>C. stoebe</i> L.	Aster	K	Hybr	Xen	Ep	Hem	VR	Nat
<i>Chaenomeles japonica</i> (Thunb.) Lindl.	Rosa	K	EAs	Erg	Agr	Ph	Sp	Nat
<i>Chenopodium hybridum</i> (L.) S.Fuentes, Uotila & Borsch ( <i>Chenopodium hybridum</i> L.)	Amara (Cheno)	A	EAs	Xen	Ep	Th	Sp	Nat
<i>Chenopodium strictum</i> Roth	Amara (Cheno)	K	Med	Xen	Ep	Th	Sp	Nat
<i>Chorispora tenella</i> (Pall.) DC.	Bras	K	EurAs	Xen	Eph	Th	VR	Cas
<i>Cichorium intybus</i> L.	Aster	A	Med-Ir-Tur	Xen	Agr-Ep	Hem	Of	Pot Inv
<i>Conium maculatum</i> L.	Apia	A	Med-Ir-Tur	Xen	Agr-Ep	Hem	Sp	Nat
<i>Consolida regalis</i> S.F. Gray	Ranu	A	Med-Ir-Tur	Xen	Agr-Ep	Th	Of	Nat
<i>Cornus alba</i> L. ( <i>Swida alba</i> (L.) Opiz)	Corn	K	Sib	Erg	Col	Ph	VR	Nat
<i>Cosmos bipinnatus</i> Cav.	Aster	K	NAm	Erg	Eph	Th	R	Cas
<i>Cotinus coggygria</i> Scop.	Anac	K	Med	Erg	Col	Ph	VR	Nat
<i>Crepis foetida</i> L.	Aster	K	Eur-Med	Xen	Eph	Hem	VR	Cas
<i>Cucurbita pepo</i> L.	Cucu	K	NAm	Erg	Eph	Th	R	Cas
<i>Cuscuta campestris</i> Yunck.	Conv	K	SAm	Xen	Agr	Th	Of	Pot Inv
<i>Cynoglossum officinale</i> L.	Bora	A	Med	Xen	Agr	Hem	Of	Nat
<i>Datura stramonium</i> L.	Sola	K	SEAs	Erg	Col	Th	VR	Nat
<i>Descurainia sophia</i> (L.) Webb & Prantl	Bras	A	Ir-Tur	Xen	Ep	Th	Of	Nat
<i>Digitaria ischaemum</i> (Schreb.) Muehl.	Poac	A	Med	Xen	Agr-Ep	Th	Sp	Nat
<i>Digitaria sanguinalis</i> (L.) Scop.	Poac	A	SEAs	Xen	Ep	Th	Sp	Nat
<i>Dipsacus fullonum</i> L.	Capr (Dips)	K	Unkn	Xen	Eph	Hem	VR	Cas
<i>Dracocephalum thymiflorum</i> L.	Lami	K	EurAs	Xen	Eph	Th	VR	Cas
<i>Echinacea purpurea</i> (L.) Moench	Aster	K	NAm	Erg	Erg	Hem	VR	Cas
<i>Echinochloa crus-galli</i> (L.) P. Beauv.	Poac	A	SEAs	Xen	Agr-Ep	Th	Of	Nat
<i>Echinocystis lobata</i> (Michx.) Torr. & Gray	Cucu	K	NAm	Xen	Agr-Ep	Th	Of	Inv
<i>Elaeagnus angustifolia</i> L.	Elae	K	Med	Erg	Col	Ph	R	Nat
<i>Elodea canadensis</i> Michx.	Hydro	K	NAm	Xen	Agr	H	R	Nat
<i>Elsholtzia ciliata</i> (Thunb.) Hyl.	Lami	K	As	Xen	Ep	Th	Of	Nat
<i>Eragrostis minor</i> Host	Poac	K	SEur	Xen	Ep	Th	Sp	Nat
<i>Erigeron annuus</i> (L.) Pers.	Aster	K	NAm	Xen	Agr-Ep	Th	Of	Inv
<i>Erigeron canadensis</i> L.	Aster	K	NAm	Xen	Agr-Ep	Th	Of	Inv

<i>Erigeron strigosus</i> Muhl. ex Willd.	Aster	K	NAm	Xen	Ep	Th	R	Nat
<i>Erysimum cheiranthoides</i> L.	Bras	A	Unkn	Xen	Agr-Ep	Th	Sp	Nat
<i>Eschscholzia californica</i> Ch.	Papa	K	NAm	Erg	Erg	Th	R	Cas
<i>Euphorbia cypasissias</i> L.	Euph	K	Eur	Xen	Ep	Hem	R	Nat
<i>Euphorbia davidii</i> Subils	Euph	K	NAm	Xen	Eph	Th	VR	Cas
<i>Fagopyrum esculentum</i> Moench	Polgn	K	CAs	Erg	Erg	Th	VR	Cas
<i>Fallopia convolvulus</i> (L.) Á. Löve	Polgn	A	Unkn	Xen	Agr	Th	Of	Nat
<i>Fraxinus pennsylvanica</i> Marsh.	Olea	K	NAm	Erg	Col	Ph	Sp	Nat
<i>Fumaria schleicheri</i> Soy. -Willem.	Papa (Fuma)	A	Ir-Tur	Xen	Agr-Ep	Th	Sp	Nat
<i>Gaillardia pulchella</i> Foug.	Aster	K	NAm	Erg	Eph	Th	VR	Cas
<i>Galeopsis ladanum</i> L.	Lami	A	Med	Xen	Ep	Th	Sp	Nat
<i>Galinsoga parviflora</i> Cav.	Aster	K	SAm	Xen	Agr-Ep	Th	Of	Nat
<i>Galinsoga urticifolia</i> (Kunth) Benth.	Aster	K	SAm	Xen	Ep	Th	R	Nat
<i>Geranium pusillum</i> L.	Gera	A	Ir-Tur	Xen	Agr-Ep	Th	Sp	Nat
<i>Geranium sibiricum</i> L.	Gera	K	As	Xen	Ep	Hem	Sp	Nat
<i>Glycine max</i> (L.) Merr.	Faba	K	EAs	Erg	Erg	Th	VR	Cas
<i>Grindelia squarrosa</i> (Pursh) Dun.	Aster	K	NAm	Xen	Ep	Hem	VR	Nat
<i>Helianthus annuus</i> L. var. <i>macrocarpa</i> Lucznik	Aster	K	NAm	Erg	Ep	Th	Sp	Nat
<i>Helianthus tuberosus</i> L.	Aster	K	NAm	Erg	Col	G	Sp	Nat
<i>Heliopsis helianthoides</i> (L.) Sweet ( <i>H. scabra</i> Dunal)	Aster	K	NAm	Erg	Agr-Ep	Hem	Sp	Pot Inv
<i>Hemerocallis fulva</i> (L.) L.	Asph (Heme)	K	EAs	Erg	Ep	Hem	Sp	Nat
<i>Hesperis matronalis</i> L.	Bras	K	Med	Erg	Ep	Hem	R	Nat
<i>Hippophaë rhamnoides</i> L.	Elae	K	Eur-Med- As	Erg	Col	Ph	VR	Nat
<i>Hordeum vulgare</i> L.	Poac	K	As	Erg	Eph	Th	R	Cas
<i>Hylotelephium spectabile</i> (Boreau) H. Ohba	Cras	K	As	Erg	Erg	Hem	VR	Cas
<i>Hyoscyamus niger</i> L.	Sola	K	Med-Ir-Tur	Xen	Agr-Ep	Hem	Sp	Nat
<i>Impatiens glandulifera</i> Royle	Bals	K	SEAs	Xen	Agr-Ep	Th	R	Nat
<i>Impatiens parviflora</i> DC.	Bals	K	CAs	Xen	Agr	Th	Sp	Inv
<i>Ipomoea purpurea</i> (L.) Roth	Conv	K	C and E Am	Erg	Eph	Th	VR	Cas
<i>Iris × germanica</i> L.	Irid	K	Hybr	Erg	Col	G	VR	Nat
<i>Iva xanthiifolia</i> Nutt.	Aster	K	NAm	Xen	Agr-Ep	Th	Of	Nat
<i>Juglans cinerea</i> L.	Jugl	K	NAm	Erg	Col	Ph	VR	Nat
<i>Juglans mandshurica</i> Maxim.	Jugl	K	As	Erg	Col	Ph	VR	Nat
<i>Juglans regia</i> L.	Jugl	K	Balkan-C- As	Erg	Col	Ph	Sp	Nat
<i>Juncus tenuis</i> Willd.	Junc	K	NAm	Xen	Agr-Ep	Hem	R	Nat
<i>Lactuca serriola</i> L.	Aster	A	Med-Ir-Tur	Xen	Agr-Ep	Th	Of	Nat
<i>Lactuca tatarica</i> (L.) C. A. Mey	Aster	K	Med	Xen	Ep	Hem	VR	Nat
<i>Lamium album</i> L.	Lami	A	Eur-Med	Xen	Ep	Hem	R	Nat
<i>Lamium amplexicaule</i> L.	Lami	A	Med-Ir-Tur	Xen	Ep	Th	Sp	Nat
<i>Lamium purpureum</i> L.	Lami	A	NMed	Xen	Agr-Ep	Hem	Of	Nat
<i>Lappula squarrosa</i> (Retz.) Dumort.	Bora	A	Med-Ir-Tur	Xen	Eph	Th	R	Cas
<i>Larix sibirica</i> Ledeb.	Pina	K	Sib	Erg	Col	Ph	VR	Nat
<i>Lathyrus tuberosus</i> L.	Faba	A	Ir-Tur- Pontic	Xen	Agr-Ep	G	R	Nat
<i>Lavatera thuringiaca</i> L.	Malv	A	Med-Ir-Tur	Xen	Agr	Hem	Of	Nat
<i>Leonurus cardiaca</i> L.	Lami	A	Med-Ir-Tur	Xen	Agr-Ep	Hem	Of	Nat
<i>Lepidium densiflorum</i> Schrad.	Bras	K	NAm	Xen	Agr-Ep	Th	Of	Nat
<i>Lepidium draba</i> L. ( <i>Cardaria draba</i> (L.) Desv.)	Bras	K	Med	Xen	Ep	Hem	Sp	Nat

<i>Lepidium ruderales</i> L.	Bras	A	Ir-Tur	Xen	Agr-Ep	Th	Sp	Nat
<i>Levisticum officinale</i> W. D. J. Koch	Apia	K	EMed	Erg	Erg	Hem	VR	Cas
<i>Ligustrum vulgare</i> L.	Olea	K	Eur	Xen-Erg	Col	Ph	R	Nat
<i>Lipandra polysperma</i> (L.) S.Fuentes, Uotila & Borsch ( <i>Chenopodium polyspermum</i> L.)	Amara (Cheno)	A	Unkn	Xen	Ep	Th	Sp	Nat
<i>Lonicera tatarica</i> L.	Capr	K	As	Xen-Erg	Agr	Ph	Sp	Nat
<i>Lunaria annua</i> L.	Bras	K	SEur	Erg	Eph	Th	R	Cas
<i>Lupinus polyphyllus</i> Lindl.	Faba	K	NAm	Erg	Agr-Ep	Th	Sp	Pot Inv
<i>Mahonia aquifolium</i> (Pursh) Nutt.	Berb	K	NAm	Erg	Col	Ch	VR	Nat
<i>Malus domestica</i> Borkh	Rosa	K	Unkn	Erg	Col	Ph	Sp	Nat
<i>Malva neglecta</i> Wallr.	Malv	A	Ir-Tur	Xen	Ep	Hem	R	Nat
<i>Malva pusilla</i> Smith	Malv	A	EurAs	Xen	Ep	Hem	Of	Nat
<i>Marrubium vulgare</i> L.	Lami	A	Med-Ir-Tur	Xen	Ep	Hem	Sp	Nat
<i>Medicago sativa</i> L.	Faba	K	EMed	Erg	Agr-Ep	Hem	Of	Nat
<i>Melissa officinalis</i> L.	Lami	K	Med	Erg	Eph	Hem	VR	Cas
<i>Mirabilis nyctaginea</i> (Michx.) MacMill. ( <i>Oxybaphus nyctagineus</i> (Michx.) Sweet)	Nyct	K	NAm	Xen-Erg	Col	Hem	VR	Nat
<i>Morus alba</i> L.	Mora	K	EAs	Erg	Col	Ph	R	Nat
<i>Myosotis arvensis</i> (L.) Hill.	Bora	A	Med-Ir-Tur	Xen	Agr	Th	Of	Nat
<i>Nicotiana tabacum</i> L.	Sola	K	C and E Am	Erg	Col	Th	VR	Nat
<i>Oenothera biennis</i> L.	Onag	K	NAm	Xen	Agr-Ep	Hem	Of	Nat
<i>Oenothera rubricaulis</i> Klebahn	Onag	K	Hybr	Xen	Agr-Ep	Hem	Sp	Nat
<i>Oenothera villosa</i> Thunb.	Onag	K	NAm	Xen	Agr-Ep	Hem	Sp	Nat
<i>Onobrychis vicifolia</i> Scop.	Faba	K	Eur-Med	Xen	Eph	Hem	R	Cas
<i>Onopordum acanthium</i> L.	Aster	A	Med-Ir-Tur	Xen	Agr-Ep	Hem	Sp	Nat
<i>Oxalis dillenii</i> Jacq. ( <i>Xanthoxalis dillenii</i> (Jacq.) Holub)	Oxal	K	NAm	Xen	Ep	Th	Sp	Nat
<i>Oxalis stricta</i> L.	Oxal	K	NAm	Xen	Ep	Th	Sp	Nat
<i>Oxybasis rubra</i> (L.) S.Fuentes, Uotila & Borsch ( <i>Chenopodium rubrum</i> L.)	Amara (Cheno)	K	Eur	Xen	Ep	Th	Sp	Nat
<i>Panicum miliaceum</i> L.	Poac	K	SEAs	Erg	Eph	Th	VR	Cas
<i>Papaver ×pseudo-orientale</i> E.G. Camus	Papa	K	Hybr	Erg	Erg	Hem	VR	Cas
<i>Papaver rhoeas</i> L.	Papa	A	Med-Ir-Tur	Xen	Ep	Th	Sp	Nat
<i>Parthenocissus quinquefolia</i> (L.) Planch. ( <i>P. inserta</i> (A. Kern.) Fritsch)	Vita	K	NAm	Xen-Erg	Agr-Ep	Ch	Sp	Pot Inv
<i>Parthenocissus vitacea</i> (Knerr.) Hitche	Vita	K	NAm	Xen-Erg	Agr-Ep	Ch	VR	Nat
<i>Petunia ×atkinsiana</i> (Sweet) D. Don ex W. H. Baxter	Sola	K	Hybr	Erg	Eph	Th	R	Cas
<i>Phacelia tanacetifolia</i> Benth.	Bora (Hydrph)	K	NAm	Erg	Eph	Th	VR	Cas
<i>Phellodendron amurense</i> Rupr.	Ruta	K	EAs	Erg	Col	Ph	VR	Nat
<i>Physalis alkekengi</i> L.	Sola	K	Med	Erg	Col	Hem	R	Nat
<i>Physocarpus opulifolius</i> (L.) Maxim.	Rosa	K	NAm	Erg	Ep	Ph	VR	Nat
<i>Phytolacca acinosa</i> Roxburgh	Phyt	K	EAs	Erg	Ep	Hem	Sp	Nat
<i>Portulaca grandiflora</i> Hook.	Port	K	SAm	Erg	Eph	Th	VR	Cas
<i>Portulaca granulato-stellulata</i> (Poellnitz) C. Ricceri & P. V. Arrigoni	Port	K	Unkn	Xen	Ep	Th	R	Nat
<i>Portulaca oleracea</i> L. s.str.	Port	A	Ir-Tur	Xen	Ep	Th	Of	Pot Inv
<i>Prunus armeniaca</i> L. ( <i>Armeniaca vulgaris</i> Lam.)	Rosa	K	As	Erg	Agr-Ep	Ph	Sp	Nat
<i>Prunus cerasifera</i> Ehrh.	Rosa	K	As	Erg	Col	Ph	R	Nat

<i>Prunus cerasus</i> L.	Rosa	K	EMed	Erg	Ep	Ph	Of	Nat
<i>Prunus domestica</i> L.	Rosa	K	Hybr	Erg	Ep	Ph	Sp	Nat
<i>Prunus serotina</i> Ehrh. ( <i>Padus serotina</i> (Ehrh.) Ag.)	Rosa	K	NAm	Erg	Col	Ph	VR	Nat
<i>Prunus tomentosa</i> Thunb.	Rosa	K	EAs	Erg	Col	Ph	R	Nat
<i>Prunus virginiana</i> L. ( <i>Padus virginiana</i> (L.) Roem.)	Rosa	K	NAm	Erg	Col	Ph	VR	Nat
<i>Ptelea trifoliata</i> L.	Ruta	K	NAm	Erg	Col	Ph	VR	Nat
<i>Pyrus communis</i> L.	Rosa	K	As	Erg	Agr-Ep	Ph	Of	Nat
<i>Quercus rubra</i> L.	Faga	K	NAm	Erg	Agr	Ph	Of	Pot Inv
<i>Raphanus raphanistrum</i> L.	Bras	A	Med	Xen	Ep	Th	Sp	Nat
<i>Rhus typhina</i> L.	Anac	K	NAm	Erg	Col	Ph	Sp	Nat
<i>Robinia pseudoacacia</i> L.	Faba	K	NAm	Xen-Erg	Agr-Ep	Ph	Of	Inv
<i>Robinia viscosa</i> Vent.	Faba	K	NAm	Erg	Col	Ph	VR	Nat
<i>Rosa rugosa</i> Thunb.	Rosa	K	EAs	Erg	Ep	Ph	R	Nat
<i>Rudbeckia hirta</i> L.	Aster	K	NAm	Erg	Ep	Th	Sp	Pot Inv
<i>Rudbeckia laciniata</i> L.	Aster	K	NAm	Erg	Eph	Hem	VR	Cas
<i>Salix fragilis</i> L.	Sali	A	As	Xen	Agr	Ph	Sp	Nat
<i>Salvia sclarea</i> L.	Lami	K	Med	Erg	Eph	Hem	VR	Cas
<i>Salvia viridis</i> L.	Lami	K	Med	Xen	Eph	Th	VR	Cas
<i>Sambucus racemosa</i> L.	Vibu (Samb)	K	WEur	Xen	Agr-Ep	Ph	Sp	Nat
<i>Saponaria officinalis</i> L.	Cary	K	Med	Xen	Agr-Ep	Hem	Of	Nat
<i>Scleranthus annuus</i> L.	Cary	A	Med	Xen	Ep	Th	R	Nat
<i>Secale cereale</i> L.	Poac	A	EMed	Erg	Eph	Th	R	Cas
<i>Sedum rupestre</i> L.	Cras	K	Med	Erg	Erg	Hem	VR	Cas
<i>Setaria italica</i> (L.) P. Beauv. ( <i>S. helvola</i> (L.f.) Roem. & Schult.)	Poac	A	Med	Xen	Ep	Th	Of	Nat
<i>Setaria viridis</i> (L.) P. Beauv.	Poac	A	Med-Ir-Tur	Xen	Ep	Th	VR	Nat
<i>Silphium perfoliatum</i> L.	Aster	K	NAm	Erg	Ep	Hem	VR	Nat
<i>Sisymbrium altissimum</i> L.	Bras	K	Med	Xen	Ep	Th	Sp	Nat
<i>Sisymbrium loeselii</i> L.	Bras	K	Med-As	Xen	Ep	Th	Sp	Nat
<i>Sisymbrium officinale</i> L.	Bras	A	Med	Xen	Ep	Th	Sp	Nat
<i>Solanum lycopersicum</i> L. ( <i>Lycopersicon esculentum</i> Mill. s.l.)	Sola	K	SAm	Erg	Eph	Th	R	Cas
<i>Solanum nigrum</i> L.	Sola	A	Med	Xen	Ep	Th	Sp	Nat
<i>Solidago canadensis</i> L.	Aster	K	NAm	Xen-Erg	Agr-Ep	Hem	Of	Inv
<i>Sonchus arvensis</i> L.	Aster	A	Med	Xen	Ep	Hem	Of	Nat
<i>Sonchus asper</i> (L.) Hill.	Aster	A	Med	Xen	Ep	Hem	R	Nat
<i>Sonchus oleraceus</i> L.	Aster	A	Med	Xen	Ep	Hem	Of	Nat
<i>Sorbaria sorbifolia</i> (L.) A.Braun	Rosa	K	SibAs	Erg	Col	Ph	R	Nat
<i>Stachys annua</i> (L.) L.	Lami	A	Med	Xen	Agr-Ep	Th	R	Nat
<i>Syringa vulgaris</i> L.	Olea	K	SEur	Erg	Agr-Ep	Ph	Sp	Nat
<i>Tagetes patula</i> L.	Aster	K	NAm	Erg	Eph	Th	R	Cas
<i>Tanacetum parthenium</i> (L.) Sch.Bip. ( <i>Pyrethrum parthenium</i> (L.) Smith)	Aster	K	Med-Ir-Tur	Erg	Eph	Hem	VR	Cas
<i>Thladiantha dubia</i> Bunge	Cucu	K	SEAs	Erg	Ep	Hem	R	Nat
<i>Thlaspi arvense</i> L.	Bras	A	Ir-Tur	Xen	Ep	Th	Of	Nat
<i>Tragopogon dubius</i> Scop.	Aster	A	Med	Xen	Ep	Th	Sp	Nat
<i>Trifolium hybridum</i> L.	Faba	K	Unkn	Xen	Eph	Th	Sp	Cas
<i>Tripleurospermum inodorum</i> (L.) Sch. Bip.	Aster	A	Med-Ir-Tur	Xen	Agr-Ep	Th	Of	Nat
<i>Triticum aestivum</i> L.	Poac	K	As	Erg	Eph	Th	Sp	Cas
<i>Tulipa gesneriana</i> L.	Lili	K	As	Erg	Erg	G	VR	Cas

<i>Ulmus pumila</i> L.	Ulma	K	As	Xen-Erg	Ep	Ph	R	Nat
<i>Urtica urens</i> L.	Urti	A	Med	Xen	Ep	Th	Sp	Nat
<i>Verbena officinalis</i> L.	Verb	A	Med-Ir-Tur	Xen	Agr-Ep	Hem	Sp	Nat
<i>Veronica persica</i> Poir.	Plan (Scro)	K	As	Xen	Ep	Th	Sp	Nat
<i>Veronica polita</i> Fries.	Plan (Scro)	A	Med-Ir-Tur	Xen	Agr-Ep	Th	Sp	Nat
<i>Vicia grandiflora</i> Scop.	Faba	K	Med	Xen	Eph	Th	VR	Cas
<i>Vicia hirsuta</i> (L.) S.F. Gray.	Faba	A	WMed	Xen	Agr-Ep	Th	Sp	Nat
<i>Vicia sativa</i> L.	Faba	K	Med-Afr-As	Xen	Eph	Th	Sp	Cas
<i>Vicia tetrasperma</i> (L.) Schreb.	Faba	A	Med	Xen	Agr-Ep	Th	Sp	Nat
<i>Vicia villosa</i> Roth	Faba	A	Med	Xen	Agr-Ep	Th	Of	Pot Inv
<i>Vinca minor</i> L.	Apoc	K	Med	Erg	Agr	Hem	Of	Nat
<i>Viola arvensis</i> Murray	Viol	A	Med	Xen	Ep	Th	Of	Nat
<i>Viola sororia</i> Willd.	Viol	K	NAm	Erg	Erg	Hem	VR	Cas
<i>Vitis vinifera</i> L.	Vita	K	Unkn	Erg	Col	Ch	VR	Nat
<i>Xanthium orientale</i> L.	Aster	K	CEur	Xen	Agr-Ep	Th	Sp	Inv
<i>Xanthium orientale</i> var. <i>riparium</i> (Celak.) Adema & M.T. Jansen	Aster	K	CEur	Xen	Agr-Ep	Th	Sp	Nat
<i>Zea mays</i> L.	Poac	K	C and E Am	Erg	Eph	Th	R	Cas