

Spontaneous flora of the local landscape Feofaniya (Kyiv, Ukraine)

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Abstract

The species composition, systematics, and ecological-coenotic features of the flora of the local landscape Feofaniya have been analyzed. In total, 650 species of vascular plants have been identified in this area, representing 337 genera and 94 families. It was found that the natural component of the flora represents 48.8 %, and synanthropic component represents 51.2 %. The aboriginal fraction includes 469 species from 252 genera and 77 families. Adventive flora is represented by 181 species from 131 genera and 51 families. The flora of the local landscape Feofaniya tends to the flora of broad-leaved forests, but due to synanthropization it has closer ties with the Ancient Mediterranean flora. It is characterized by prevailing of herbaceous plants (555 species or 85.3 %), hemicryptophytes (394 species or 60.6 %), plants with a tap root system (318 species or 48.9 %), with non-rosellate aboveground shoots (430 species or 66.1 %), with summer-green vegetation (621 species or 95.5%), and non-rhizomatous (206 species or 31.7%) type of underground shoots. Based on the analysis of the naturalization of alien plant species in the studied flora, the predominance of kenophytes (111 species) and epecophytes (90 species) was established. Such predominance is associated with significant recreational-touristic and other anthropogenic loads.

Keywords: floristic diversity, systematic structure, alien fraction, local landscape Feofaniya

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Introduction

The rapid growth of anthropogenic impact on the environment is becoming a global challenge, so the study of flora and vegetation at the local and regional levels is a crucial task. As a result of human activities (including the destruction of natural habitats, deforestation, and invasion of alien species), rare plant species and certain biotopes disappear from

nature. In the last decade, environmental disturbances caused by alien species invasions were a principal factor in biodiversity loss and were identified as a growing threat to environmental sustainability (Rai & Sing, 2020).

Recently, flora and fauna have been studied in the territories of united territorial communities, botanical gardens, and arboretums, which are important for the inventory and ecological monitoring of

biodiversity at the local level. Based on the results of such studies, annotated lists of vascular plants in natural and urban areas have been published (Berezina et al., 2007; Shynder & Doiko, 2020; Shynder & Negrash, 2021; Kuzemko et al., 2021; Davydov & Gomlya, 2021).

In terms of floristics and phytocoenotic composition, the forest-steppe local landscape Feofaniya is an interesting object. It is located on the territory of the largest metropolis of Ukraine – Kyiv city. This place has historical, educational, recreational, and environmental value, and, at the same time, it is an indicator of the condition of the environment of urban areas (Radchenko et al., 2019).

The first detailed research on the forest vegetation in the local landscape Feofaniya was conducted in the 1950's (Povarnitsyn & Shendrikov, 1957). The researchers made complete descriptions of the soil sections for different types of forest biocoenoses, particularly oak, hornbeam, pine, and alder. They also created a scheme of digressive changes of forest types in hornbeam-oak forests. Later, in the multivolume edition "Vegetation of the UkrSSR", authors revealed the features of the coenotic and floristic structure of oak forests in the example of an oak grove of the local landscape Feofaniya (Hryn & Bradis, 1971). Deciduous forests with the participation of *Carpinus betulus* L. in the vicinity of Kyiv were studied by Lubchenko (1983). He made geobotanical descriptions and established the distribution of regular forest species and discovered the presence of *Cephalanthera longifolia* (L.) Fritsch. Later Padun (1985) provided a classification (based on the dominant principle) and detailed phytocoenocytic characteristics of the forest phytocoenoses of the local landscape Feofaniya.

Subsequently, the floristic inventory was conducted by the staff of the Scientific Centre for Ecomonitoring and Biodiversity of the Metropolis of the National Academy of Sciences of Ukraine (SCEBM) in 2007–2008. They recorded 156 species of higher vascular plants in the Feofaniya forests, and over 170 species – on the open steppe areas (Shelyag-Sosonko et al., 2009; Radchenko & Bayrak, 2009). Deciduous forests were classified as belonging to the class *Carpino-fagetea sylvaticae* Jakucs ex Passarge 1968, alliance *Carpinion betuli* Issler 1931, association *Galeobdolo lutei-*

Carpinetum Shevchyk, Bakalyna et Solomakha 1996 (Goncharenko et al., 2013). Individual loci in the landscape are represented by the vegetation of *Robinietae* Jurko ex Hadač et Sofron 1980, *Salicetea purpureae* Moor 1958, and *Alnetea glutinosae* Br.- Bl. et Tx. ex Westhoff et al. 1946 classes (Shelyag-Sosonko et al., 2009). In 2009, employees of the SCEBM planted many rare ephemeroïds in the local landscape Feofaniya to preserve them *in situ*. In 2000, *Allium ursinum* L. was planted in the hornbeam-oak forest (I and V forest quarters) and was naturalized as a part of the *Galeobdolo lutei-Carpinetum* association (Bayrak & Hrytsay, 2009). Since 2007, over 50 generative individuals of *A. ursinum* have been registered there. In April 2009, in some deciduous forest localities, the next ephemeroïdes were planted: *Scilla siberica* Haw. (Hyacinthaceae), *Crocus heuffelianus* Herb. (Iridaceae), *Erythronium dens-canis* L. (Liliaceae), *Galanthus plicatus* M. Bieb., *G. nivalis* L. (Amaryllidaceae), and *Gymnospermium odessanum* (DC.) Takh. (Berberidaceae). The current state of cultivated rare plants in those populations is under evaluation.

In 2014, an inventory of ancient common oak trees of the Park-Monument of Landscape Art of National Importance Feofaniya (PMLANI Feofaniya) was conducted, and an electronic map of its spatial distribution was created (Matiashuk et al., 2014). Measures to restore the age-old oakery by making "windows" in a tent of the second tier with an area of 0.08 ha and planting *Quercus robur* seedlings in these "windows" were suggested (Klimenko et al., 2014).

The territory of the local landscape Feofaniya served as a basis for studying the population strategy of such alien plant species spreading spontaneously as *Eragrostis minor* Host (Pashkevych, 2015), *Impatiens parviflora* (L.) DC. (Golivets, 2014a, b), *Anthriscus sylvestris* (L.) Hoffm. (Pashkevych & Bereznicenko, 2016), *Heracleum sosnowskyi* Manden. and *H. mantegazzianum* Sommier & Levier (Gubar & Koniakin, 2021), *Quercus rubra* L. (Burda, 2018), and *Juglans* L. (Burda & Koniakin, 2018). Scientists of the Institute of Evolutionary Ecology have established the exact cambial age of centuries-old trees on this territory (i.e., *Quercus robur* L., *Pinus sylvestris* L., and *Tilia cordata* Mill.) and implemented necessary protection measures

(Prokopuk & Krylov, 2018; Prokopuk & Netsvetov, 2020; Prokopuk et al., 2020). The resulting complete list of trees occupied by age-old *Querceta roboris* in PMLANI Feofaniya was reported (Klimenko et al., 2014).

At the same time, information on this local landscape's current vegetation and flora remained fragmentary and incomplete. Therefore, the purpose of the study was to establish the species composition, structure, and features of the flora of the local landscape Feofaniya for further monitoring of the condition of its vegetation cover.

Material and methods

The vegetation research was carried out on the territory of the local landscape Feofaniya, which is located on the southeastern outskirts of Kyiv at a distance of 15 km from the city center. The local climate is temperate continental, characterized by mild unstable winters. Springs are relatively dry; summers are warm with enough rainfall. According to the physical and geographical zonality, the local landscape Feofaniya is located in Vasylkiv-Kaharlyk landscape district of Kyiv Upland landscape region, the Forest-Steppe zone of Ukraine (Marynych et al., 2003). The relief's most characteristic element is the Feofaniya (Khotivska) ravine, through the valley of which the Feofaniya stream (belongs to the Vita river basin) flows. Deep ravines with turfed slopes and narrow thalwegs trench the landscape (Barshchevska & Tyutyunnyk, 2014). The landscape includes a PMLANI Feofaniya, with an area of 150 hectares, which was declared an object of the Natural reserve fund of Ukraine in 1972 (Alokhin et al., 2009). PMLANI Feofaniya within the park area is represented by natural hornbeam-oak forests (*Carpinetalia betuli* P. Fukarek 1968) with a high density of ancient trees and secondary hornbeam forests. There are wetland areas and fragments of steppe meadows combined with artificial phytocoenoses, a cascade of Feofaniya (Palladinskyi) ponds, and numerous natural springs and streams (Radchenko & Bayrak, 2009; Fig. 1). Biotopes classification for Feofaniya park is developed applying the dominant-coenotic principle (according to the EUNIS system) (Pashkevych, 2020).

From 2017 to 2021, the vegetation and of the local landscape Feofaniya and its taxonomic composition was investigated in a semi-stationary way. Based on previous (Burda, 2012) and current investigations, we compiled a summary of the studied flora. Some of the findings were confirmed by photos uploaded to iNaturalist (2022) database. Preliminary floristic results were also partially published in other works (Radchenko et al., 2019; Burda & Koniakin, 2018; Gubar & Koniakin, 2020, 2021) that contain more detailed information on the spontaneous distribution of invasive alien plant species on this territory.

The systematic structure of the studied flora was analyzed according to Tolmachev (1974). The spectrum of geoelements of the flora of the local landscape Feofaniya was established according to Kleopov (1990) and Zaverukha (1985). The chorological affiliation of some alien species was specified following Protopopova (1991). The habitat information of the studied plant species was supplemented according to Fedorov (1974–1987), Tzvelev (1989–2004), and Komarov (1934–1964).

The biomorphological structure of the studied flora was determined according to principal works (Raunkiær, 1905; Serebraykov, 1952, 1962; Golubev, 1965). The ecological and coenotic structure of the studied flora is described following Didukh & Plyuta (1994) concept. Latin names of higher taxonomic ranks are given according to Mosyakin & Fedoronchuk (1999), while the names of lower taxa follow POWO (2022) and WFO (2022) databases.

Results and discussion

Systematic structure

The flora of the local landscape Feofaniya is represented by 650 species of vascular plants belonging to 337 genera and 94 families (Appendix). It includes four clades: Equisetophyta (1 family / 1 genus / 4 species), Polypodiophyta (4/5/7), Pinophyta (1/1/1), and Magnoliophyta (88/330/638). The main indicators of flora are: the ratio between individual groups of vascular plants; distribution of species between individual taxa levels (i.e., orders, families, and genera); quantitative composition of dominant families and the ratio between the number of species

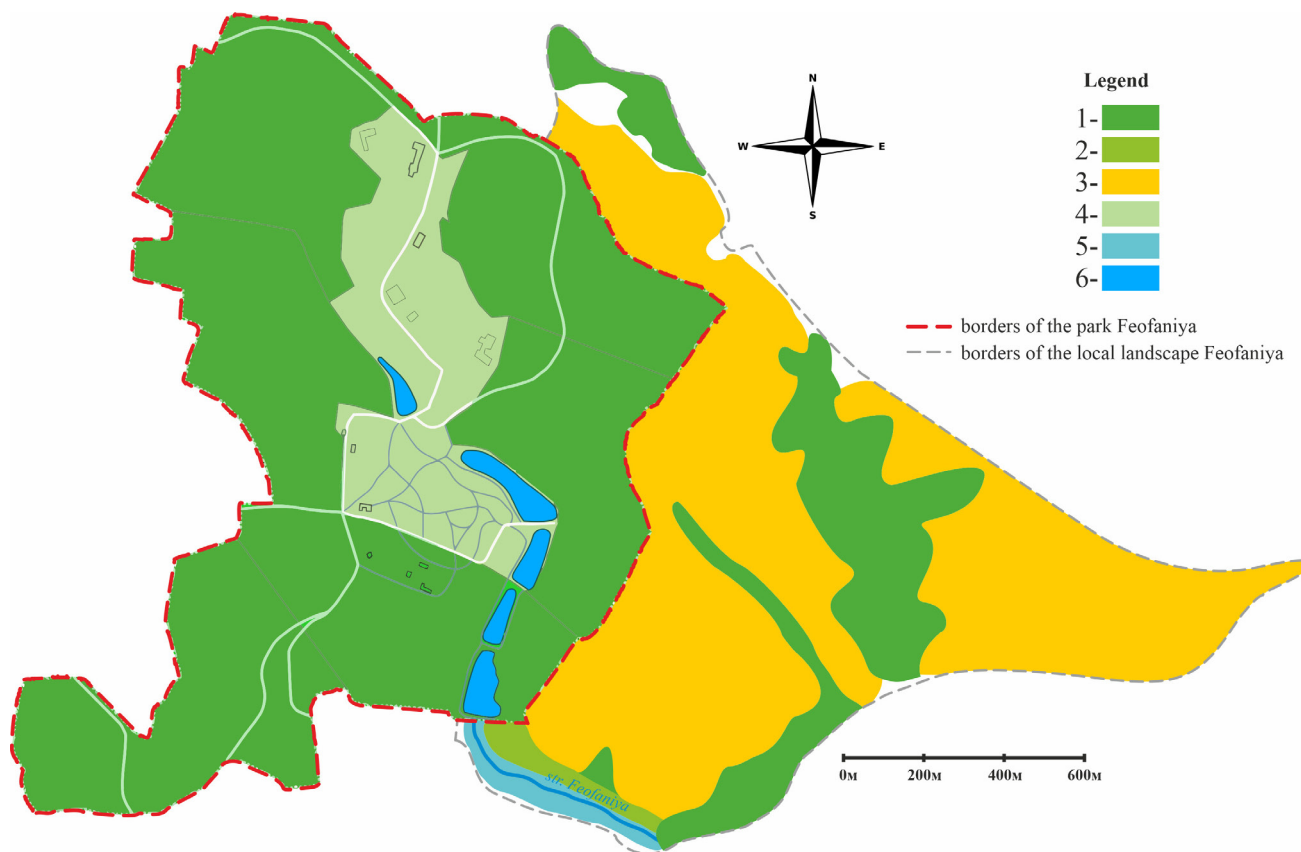


Figure 1. Main biotopes of the local landscape Feofaniya and surrounding areas. 1 – phanerophytic-type biotopes (G); 2 – herb-gramineous, meso- and xerotic biotopes dominated by hemicryptophytes, generated in conditions of moderate or insufficient moisture (meadows, steppes) (E); 3 – biotopes produced in a result of human economic activity (fallows) (I); 4 – the same (park and garden biotopes) (I); 5 – overwetted gramineous-type biotopes, wetland and coastal-aquatic vegetation (D); 6 – biotopes of continental reservoirs (C).

in different families (Tolmachev, 1986). For the studied flora, this ratio is 1:3.6:6.7, and the average number of species in the genus is 1.9. The most of systematic elements of the studied flora belong to the Magnoliophyta (98.2% of the total number of species). From this number, Liliopsida comprises 20.0%, Magnoliopsida – 78.2%. Beside this, Equisetophyta represents 0.6%, Polypodiophyta – 1.1%, and Pinophyta – 0.1%, which is typical for the flora of Ukraine in general.

It was found that the first two leading families in the flora of the local landscape Feofaniya are Asteraceae and Poaceae (Table 1). These families are first leading in the flora of Kyiv and Ukraine too (Protopopova, 1991; Hrechyshkina, 2010). The third leading family in the flora of the studied area is Lamiaceae, which is unusual for the compared floras. The strong presence of this family in the flora of the local landscape Feofaniya is due to the increased number of synanthropic plant

species in its composition. Fabaceae here occupies a position lower than in the flora of Ukraine but much higher than in the flora of Kyiv. Rosaceae occupies the fifth position, which is lower than in Kyiv and Ukrainian floras. The distribution of other lower ranks in the families' spectrum was affected by the increased presence of Lamiaceae and the appearance of Cyperaceae among the leading families. Cyperaceae appeared among the leading families due to the predominance of aboriginal plant species, which are mainly distributed in small areas of wetlands in the floodplain of the Vita stream.

In general, ten leading families comprise over half of the species of studied flora, while the top three families gather over a quarter of the species (Table 1). The other 29 families are represented mainly by a single species each.

The information about floristic features is generally reflected in the composition of the leading genera. However, for the flora of the

Table 1. The spectrum of the leading families in the flora of the local landscape Feofaniya compared with floras of Kyiv and Ukraine (Protopopova, 1991; Hrechyshkina, 2010).

Nr	Flora of the local landscape Feofaniya		Kyiv flora	Ukrainian flora
	Families	Number of species / %	Families	Families
1	Asteraceae	71 / 10.9	Asteraceae	Asteraceae
2	Poaceae	58 / 8.9	Poaceae	Poaceae
3	Lamiaceae	45 / 6.9	Cyperaceae	Fabaceae
4	Fabaceae	38 / 5.8	Rosacea	Rosacea
5	Rosacea	32 / 4.9	Caryophyllaceae	Lamiaceae
6	Brassicaceae	27 / 4.2	Lamiaceae	Caryophyllaceae
7	Caryophyllaceae	25 / 3.8	Fabaceae	Ranunculaceae
8	Apiaceae	24 / 3.7	Scrophulariaceae	Apiaceae
9	Ranunculaceae	17 / 2.6	Apiaceae	Brassicaceae
10	Cyperaceae	16 / 2.5	Ranunculaceae	Cyperaceae
Totally in the top three families		174 / 26.7		
Totally in the top ten families		353 / 54.3		

local landscape Feofaniya, it is not indicative because most genera are represented by one or two species only. The typical boreal genus *Carex* L. (13 species or 2.0% of the total number of species), and the typical Mediterranean genera *Veronica* L. (13 species or 2.0%) and *Trifolium* L. (10 species or 1.5%) have the largest species diversity in the local landscape Feofaniya.

Geographical structure

Four types of regional distribution areas, including 15 classes and 13 groups, have been established in the flora of the local landscape Feofaniya (Table 2). Holarctic type occupies a leading position and is represented by 518 species, which corresponds to 79.6% of the total number of species in the study area. This type consists of five classes, among which the Eurasian class predominates. The Holarctic class occupies the second position, which is typical both for the studied flora and the region's flora in general. Cosmopolitan type is the second by the number of gathered species (Table 2). It combines two classes, among which the cosmopolitan class is the most abundant. This type is represented by species of synanthropic and adventitious factions. This is associated with their invasion in the region and their ability to effectively adapt to the new

environmental conditions. The transitional type is enhanced exclusively by alien species and represented by seven species only. The Mediterranean type occupies the lowest position in the spectrum of geographical structure and is represented by two species only.

Biomorphological structure

In the spectrum of biormorphs in the studied flora, gramineous polycarpic plants (359 species or 55.2% of the total species number) and gramineous monocarpic plants (196 species or 30.2%) predominate. The share of woody representatives (trees and shrubs) is much smaller – they are represented by 95 species (14.6%) only. The trees are represented by 51 species (7.8%), shrubs – by 36 species (5.5%) species, semi-shrubs – by seven species (1.2%), and small shrubs – by a single species (0.1%).

Analysis of life forms (Fig. 2) showed a predominance of hemicryptophytes (60.6%). This indicates the approach of the studied flora to the temperate holarctic type, which fully corresponds to its geographical location. Due to the increased presence of alien plant species, which are distributed mainly in the affected areas, therophytes occupy the second position (24.6%). Considering that the local

landscape Feofaniya is a forest park object, this resulted in 12.8% of phanerophytes presence. Chamephytes are represented only by ten species (1.5%); among them, one species is a nanophanerophyte (0.1%), and two are geophytes (0.4%).

One of the main features of the biomorphological structure of the studied flora is the periodicity of vegetation. According to this indicator, summer-green plants predominate in the flora of the local landscape Feofaniya and are represented by 621 species (95.5%). All other groups, i.e., summer/winter-green plants (7 species or 1.1%), winter-green (11 species or 1.7%), ephemeroïds (8 species or 1.2%) and ephemers (3 species or 0.5%) – are represented by significantly lower number of species.

The rosellate, semi-rosellate and non-rosellate plants were distinguished among the studied species. According to this feature, non-rosellate plants predominate in the studied flora and are represented by 430 species (66.2%). There are 198 species (30.5%) of semi-rosellate plants. Rosellate plants have the smallest representation – 22 species make only 3.3% of the total number.

In the flora of the local landscape Feofaniya, the predominance of species with a tap root system (318 species or 48.9%) was noted. Species with fibrous (270 species or 41.5%) and tap-fibrous (59 species or 9.1%) root systems are less abundant. Plants without root system are represented by three species only (i.e., *Cuscuta europaea* L., *Lathraea squamaria* L., and *Viscum album* L.), which make 0.5% of the total number of species. An increase in the proportion of species with a tap root system is observed in anthropogenic flora (Protopopova, 1991; Zavyalova, 2010), and confirmed by the results of a present analysis.

A characteristic feature of the studied flora is a high rate of non-rhizomatous species (206 species or 31.7%). Short-rhizomatous (177 species or 27.2%) and long-rhizomatous (107 species or 16.5%) plant species are also well represented in the studied flora. This is due to the preservation of certain inaccessible natural biotopes that are not recreationally affected. The group of caudex plants (139 species or 21.3%) has also a high presence rate. The plants with tuberous (14 species or 2.2%) and bulbous (7 species or 1.1%) structure of underground shoots are the least abundant.

Table 2. The geographical structure of the flora of the local landscape Feofaniya.

Distribution areas types and classes	Number of species / %
I. HOLARCTIC TYPE	518 / 79.6
1. Holarctic class	191 / 29.3
2. North American class	3 / 0.5
3. Eurasian class	300 / 46.1
4. European class	21 / 3.2
5. Circumboreal class	3 / 0.5
II. MEDITERRANEAN TYPE	2 / 0.3
1. Mediterranean class	2 / 0.3
III. TRANSITIONAL TYPE	7 / 1.1
1. European–North American class	1 / 0.2
2. European–Mediterranean–North American class	1 / 0.2
3. European–Eastern Asian–North American class	1 / 0.2
4. European–Asian–North American class	1 / 0.2
5. European–Mediterranean–Eastern Asian–North American class	1 / 0.2
6. European–American class	1 / 0.2
7. Western Palearctic–South American class	1 / 0.2
IV. COSMOPOLITAN TYPE	123 / 18.9
1. Cosmopolitan class	100 / 15.3
2. Hemicosmopolitan class	23 / 3.5

Ecological structure

In the ecological spectrum regarding soil moisture, the mesophilic group of plants is the most numerous and represented by 77.3% of species. This group is subdivided onto eumesophilic (46.0%), xeromesophilic (28.0%) and hygromesophilic (3.4%) subgroups. The second position is occupied by the group of hygrophilous plants, which comprise 11.8%. The group of hygrophilous plants is subdivided onto euhygrophilic (7.4%) and mesohygrophilic (4.5%) subgroups. The xerophilic group is much smaller – it represents 8.3% of the total number of species only. Consequently, the xerophilic group is subdivided into euxerophilic (2.1%) and mesoxerophilic (6.2%) subgroups. The hydrophilic group is the least

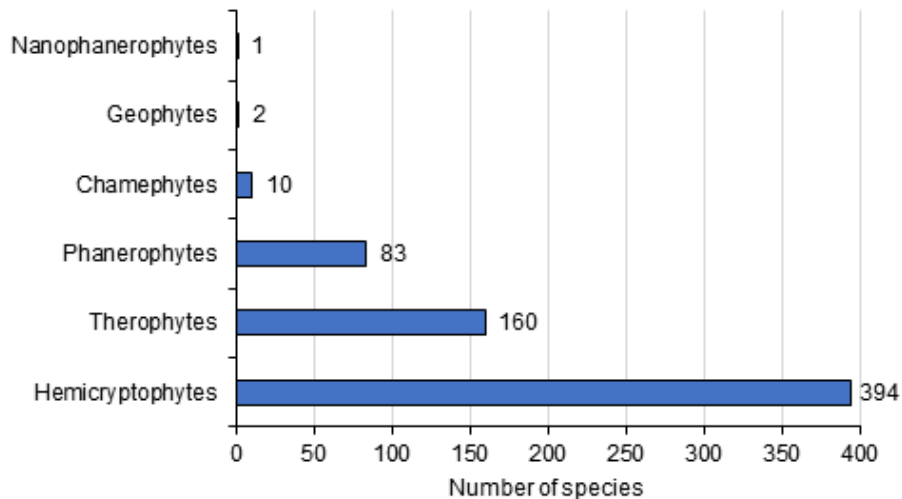


Figure 2. Distribution of the life forms in the flora of the local landscape Feofaniya.

numerous and represents 1.8% of the total number of species (Fig. 3A).

According to the heliomorphs, the studied plants are distributed among four groups: heliophytes, sciophytes, heliosciophytes, and sciogeliophytes. Heliophytes predominate and are represented by 51.4% of plant species. Sciogeliophytes occupy the next position with 33.7% of the total number of species. Heliosciophytes and sciophytes are represented by 10.4% and 4.5%, respectively (Fig. 3B).

Ecological-coenotic analysis

The species of synanthropic groups prevail in the eco-coenotic spectrum of the flora of the local landscape Feofaniya. There are 32.6% of synanthropic plant species (e.g., *Acer negundo* L., *Asclepias syriaca* L., and *Bromus tectorum* L.), which are pretty abundant due to anthropogenic load and invasion. In the local landscape Feofaniya, forest species (e.g., *Carpinus betulus* L., *Lathyrus vernus* (L.) Bernh., and *Paris quadrifolia* L.) represent 27.8%, and meadow species (e.g., *Dianthus deltoides* L., *Scabiosa ochroleuca* L., and *Silene flos-cuculi* (L.) Greuter et Burdet) represent 23.8%. Significantly less common are representatives of coastal-water (4.2%; e.g., *Alisma plantago-aquatica* L., *Butomus umbellatus* L., and *Cyperus fuscus* L.), wetland (3.4%; e.g., *Carex acuta* L., *Juncus conglomeratus* L., and *Alopecurus arundinaceus* Poir.), coastal (2.5%; e.g., *Angelica archangelica* L., *Eupatorium*

cannabinum L., and *Echinocystis lobata* (Michx.) Torr. et A. Gray), steppic (2.5%; e.g., *Festuca valesiaca* Schleich. ex Gaudin, *Eryngium campestre* L., and *Artemisia austriaca* Jacq.), sandy (1.8%; e.g., *Artemisia campestris* L., *Helichrysum arenarium* (L.) Moench, and *Pilosella officinarum* Vaill.), and aquatic (1.4%; e.g., *Lemna minor* L., *Myriophyllum spicatum* L., and *Potamogeton nodosus* Poir.) communities (Fig. 4).

The alien fraction of the studied flora includes 181 species of vascular plants belonging to 131 genera and 51 families, which makes 28.0% of the total number of species in the studied area (Appendix). In general, in the flora of Ukraine, the alien fraction comprises only 16.0% (Protopopova, 1991). The division of alien plant species into groups is based on the time of their entry into certain flora (Protopopova, 1988). Hence, the alien fraction of the studied flora is dominated by kenophytes – 111 species (60.9%) and archaeophytes – 70 species (39.1%).

According to the degree of naturalization, alien plant species of the studied flora are divided into five groups. Epexophytes are presented by the largest number of species according to the degree of their naturalization. They are represented by 90 species and comprise 50.0% of the total number of species of the foreign fraction of the studied flora. The second position occupies ergasiophytes, represented by 60 species (33.0%). Agriocophytes include 14 species (7.7%). Agriophytes and ephemeroxytes are

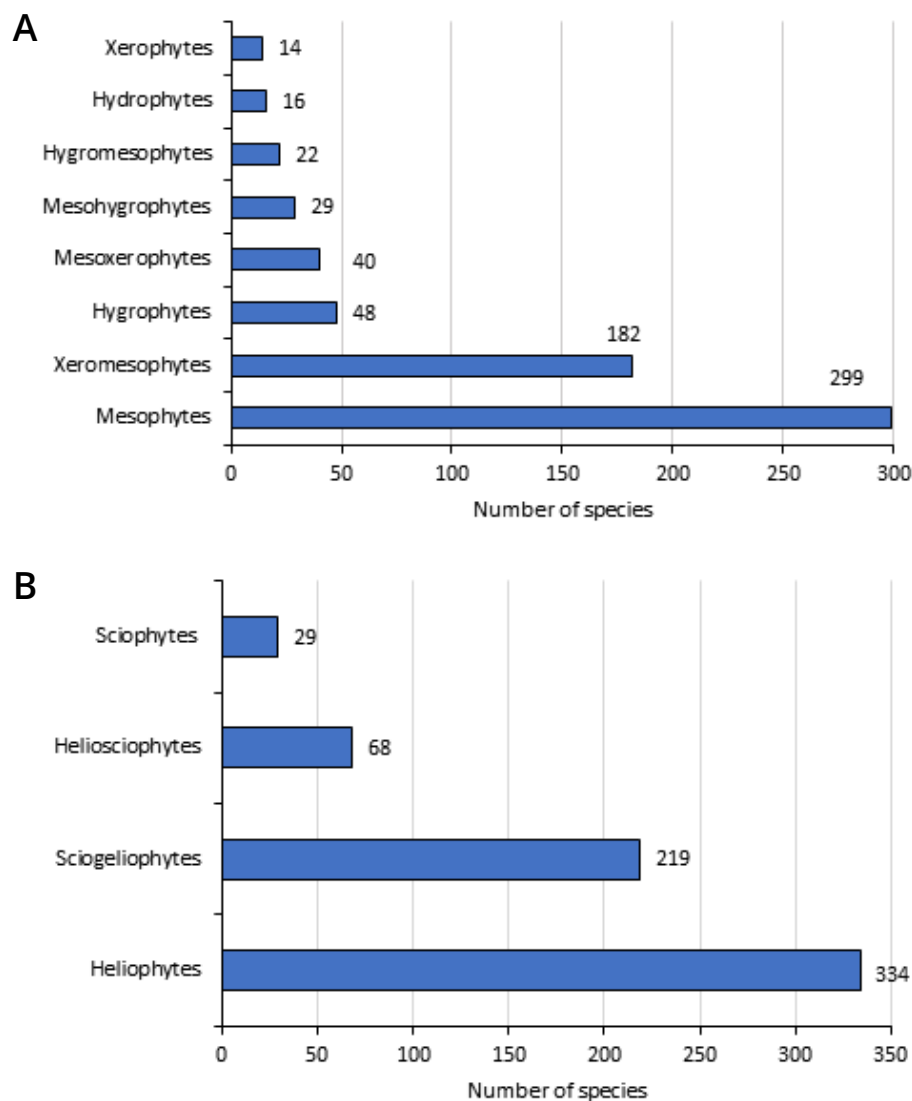


Figure 3. Hygromorphs (A) and heliomorphs (B) in the flora of the local landscape Feofaniya.

represented by ten (5.5%) and seven (3.8%) species, respectively.

Analysis of initial distribution areas of the alien species represented in the flora of the local landscape Feofaniya showed the predominance of North American (39 species or 21.4%), Mediterranean (37 species or 20.3%), and Mediterranean-Iranian-Turanian (20 species or 11.0%) origin. The species of Asian (16 species or 8.8%) and Iranian-Turanian (12 species or 6.6%) origin are much less abundant. All other groups include from one to five species and, in total, joint 58 species (31.9%).

Significant synanthropization of the local landscape Feofaniya located on the outskirts of Kyiv and borders of Holosiivskyi National Nature Park was detected. Escaped plants

(ergasiophytes) and the economic activity of St. Panteleimon's monastery and the Park Feofaniya (ornamental horticulture) contributed to the synanthropization of the flora. The entry of ergasiophytes is realized from adjacent territories, including the archeological Monument of the National Importance Khotiv Hillfort, Holosiivskyi National Nature Park, the National Complex Expocenter of Ukraine, and the National Museum of Folk Architecture and Life of Ukraine Khotiv Village. Despite the high level of synanthropization in the studied area, the presence of two species listed in the Red Book of Ukraine (i.e., *Lilium martagon* L. and *Neottia nidus-avis* (L.) Rich.; [Didukh, 2009](#)) and nine regionally rare for Kyiv city and Kyiv region plant species have been confirmed ([Appendix](#)).

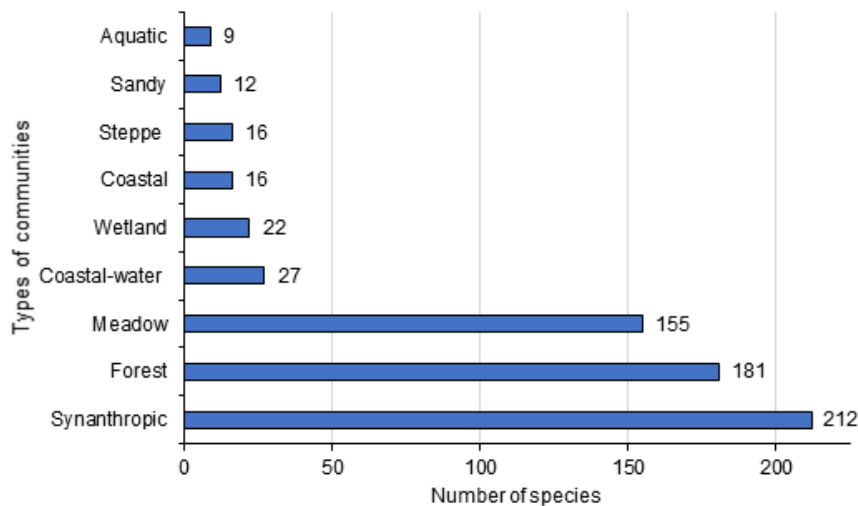


Figure 4. Ecological and coenotic spectrum in the flora of the local landscape Feofaniya.

In general, a comprehensive analysis of the studied flora revealed that it belongs to the flora of broad-leaved forests. Minor deviations in flora's spectra are associated with an increased presence of alien plant species.

We compared the data on the flora of the local landscape Feofaniya with similar studies implemented in 2019–2021 by the prominent introductory botanical institutions of the Right Bank Forest-Steppe. Thus, the largest floristic diversity (830 plant species) was recorded in the Dendrological Park Alexandria (Shynder & Doiko, 2020). Over 700 species of wildy growing plants were reported from the M.M. Gryshko National Botanical Garden (Shynder, 2021). The vegetation structure of the O.V. Fomin Botanical Garden is represented by 524 taxa (Kolomiychuk & Shynder, 2022). Instead, the smallest diversity of plants was recorded for the spontaneous flora of the Dendrological Park Sofiyivka – 443 species (Chorna et al., 2021). Considering the species composition, it was found that the flora of the local landscape Feofaniya occupies an intermediate position by quantitative characteristics and taxonomically it is the most similar to the Dendrological Park Alexandria, which tends to more forested regions of the Forest-Steppe of Ukraine.

It should be noted that the presence of alien species in the local landscape Feofaniya is relatively low (only 27.8%). For comparison, in the M.M. Gryshko National Botanical Garden, alien species comprise 41.9%, in the Dendrological Park Alexandria and

Dendrological Park Sofiyivka – 31.2% and 25.5%, respectively (Shynder & Doiko, 2020; Shynder, 2021; Chorna et al., 2021). Thus, the vegetation of the local landscape Feofaniya is less transformed among mentioned areas.

Conclusions

It was found that the spontaneous flora of the local landscape Feofaniya is represented by 650 species of vascular plants belonging to 337 genera and 94 families. The analysis of the systematic structure of the studied flora revealed that it is similar to the flora of broad-leaved forests. Although at the same time, there is a shift in its systematic structure due to anthropogenic impact and the formation of new ecotopes due to the transformation of soil and vegetation. The geographical structure of the studied flora has dominated species of the holarctic type (518 species), most of which belong to the Eurasian class (300 species) and cosmopolitan type (123 species), which is characteristic of the broad-leaved forests.

The dominance of gramineous (85.3%), hemicryptophytes (60.6%), tap-root (48.9%), nonrosellate (66.1%), summer-green (95.5%) and rhizome-free (31.7%) plants was established.

In general, the studied flora has prevailing mesophilic-hygromesophilic features. The diversity of plant ecological groups has resulted from a significant concentration of semi-natural types of biotopes. According to

the results of the analysis of the naturalization of alien plant species, the predominance of kenophytes (111 species), epecophytes (90 species), and species of North American origin (40 species) have been determined.

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Appendix. An annotated checklist of spontaneous flora of the local landscape Feofaniya (Kyiv city, Ukraine).

Legend:

- * – alien (non-native) plant species;
- " – cultural plant species;
- ' – rare and endangered plant species;
- j – unconfirmed plant species.

EQUISETOPHYTA

Equisetaceae: *Equisetum arvense* L., *E. hyemale* L., *E. pratense* Ehrh., *E. sylvaticum* L.

POLYPODIOPHYTA

Dennstaedtiaceae: *Pteridium aquilinum* (L.) Kuhn.

Dryopteridaceae: *Dryopteris carthusiana* (Vill.) H.P. Fuchs, *D. dilatata* (Hoffm.) A. Gray, *D. filix-mas* (L.) Schott.

Athyriaceae: *Athyrium filix-femina* (L.) Roth.

Cystopteridaceae: *Cystopteris fragilis* (L.), *Gymnocarpium dryopteris* (L.) Newman.

PINOPHYTA

Pinaceae: *Pinus sylvestris* L.

MAGNOLIOPHYTA

LILIOPSIDA

Alismataceae: *Alisma plantago-aquatica* L.

Amaryllidaceae: *Allium angulosum* L., *A. oleraceum* L., *A. rotundum* L., 'A. ursinum L., 'Galanthus nivalis L., 'G. plicatus M. Bieb.

Araceae: *Lemna minor* L.

Asparagaceae: *Asparagus officinalis* L.

Butomaceae: *Butomus umbellatus* L.

Convallariaceae: *Convallaria majalis* L., *Maianthemum bifolium* (L.) F.W. Schmidt, *Polygonatum multiflorum* (L.) All., *P. odoratum* (Mill.) Druce

Haloragaceae: *Myriophyllum spicatum* L.

Hyacinthaceae: *Muscari neglectum* L., *Scilla bifolia* L., *S. siberica* Haw.

Cyperaceae: *Carex acuta* L., *C. acutiformis* Ehrh., *C. digitata* L., *C. hirta* L., *C. michelii* Host., *C. pallescens* L., *C. pilosa* Scop., *C. praecox* Schreb., *C. pseudocyperus* DC., *C. remota* L., *C. spicata* Huds., *C. sylvatica* Huds., *C. vesicaria* L., *Cyperus fuscus* L., *Eleocharis palustris* (L.) Roem. et Schult., *Scirpus sylvaticus* L.

Iridaceae: *Crocus heuffelianus* Herb., *Iris pseudacorus* L.

Juncaceae: *Juncus articulatus* L., *J. bufonius* L., *J. compressus* Jacq., *J. conglomeratus* L., *J. effusus* L., *J. inflexus* L., *Luzula campestris* (L.) DC., *L. pallescens* Sw.

Liliaceae: *Erythronium dens-canis* L., *Gagea lutea* (L.) Ker Gawl., *G. minima* (L.) Ker Gawl., *G. paczoskii* (Zapal.) Grossh., *Lilium martagon* L.

Orchidaceae: *Cephalanthera longifolia* (L.) Fritsch, *Neottia nidus-avis* (L.) Rich.

Poaceae: *Agropyron cristatum* (L.) P. Gaertn., *Agrostis capillaris* L., *A. gigantea* Roth., *A. stolonifera* L., *Alopecurus arundinaceus* Poir., *A. pratensis* L., *Apera spica-venti* (L.) P. Beauv., *Arrhenatherum elatius* (L.) J. Presl et C. Presl, *Avena sativa* L., *Bothriochloa ischaemum* (L.) Keng, *Brachypodium sylvaticum* (Huds.) P. Beauv., *Bromus arvensis* L., *B. benekenii* (Lange) Trimen, *B. carinatus* Hook. et Arn., *B. hordeaceum* L., *B. inermis* Leyss., *B. japonicus* Thunb., *B. sterilis* L., *B. tectorum* L., *Calamagrostis canescens* (Weber) Roth., *C. epigeios* (L.) Roth, *Dactylis glomerata* L., *Deschampsia caespitosa* (L.) P. Beauv., *Digitaria ischaemum* (Schreb.) Muehl., *D. sanguinalis* (L.) Scop., *Echinochloa crus-galli* (L.) P. Beauv., *Elytrigia intermedia* (Host) Nevski, *E. repens* (L.) Nevski, *E. trichophora* (Link) Nevski, *Eragrostis minor* Host., *E. pectinacea* (Michx.) Nees., *E. pilosa* (L.) P. Beauv., *Festuca valesiaca* Schleich. ex Gaudin, *Glyceria fluitans* (L.) R. Br., *Hordeum murinum* L., *Koeleria macrantha* (Ledeb.) Schult., *Lolium giganteum* (L.) Darbysh., *L. murtiflorum* Lam., *L. perenne* L., *L. pratense* (Huds.) Darbysh., *Melica nutans* L., *M. picta* K. Koch., *Milium effusum* L., *Molinia caerulea* (L.) Moench, *Phleum pratense* L., *Phragmites australis* (Cav.) Trin. ex Steud., *Poa angustifolia* L., *P. annua* L., *P. bulbosa* L., *P. compressa* L., *P. nemoralis* L., *P. pratensis* L., *P. trivialis* L., *Setaria pumila* (Poir.) Roem. et Schult., *S. verticillata* (L.) P. Beauv., *S. viridis* (L.) P. Beauv., *Triticum aestivum* L., *Vulpia myuros* (L.) C.C. Gmel.

Potamogetonaceae: *Potamogeton crispus* L., *P. natans* L., *P. nodosus* Poir., *P. perfoliatus* L., *Stuckenia pectinata* (L.) Börner

Sparganiaceae: *Sparganium erectum* L.

Trilliaceae: *Paris quadrifolia* L.

Typhaceae: *Typha angustifolia* L., *T. latifolia* L.

MAGNOLIOPSIDA

Aceraceae: *Acer campestre* L., *A. negundo* L., *A. platanoides* L., *A. pseudoplatanus* L., *A. saccharinum* L., *A. tataricum* L.

Adoxaceae: *Adoxa moschatellina* L.

Amaranthaceae: *Amaranthus albus* L., *A. caudatus* L., *A. retroflexus* L.

Apiaceae: *Aegopodium podagraria* L., *Angelica archangelica* L., *Anthriscus sylvestris* (L.) Hoffm., *Berula erecta* (Huds.) Coville, *Chaerophyllum aromaticum* L., *C. temulum* L., *Conium maculatum* L., *Daucus carota* L., *Eryngium campestre* L., *E. planum* L., *Falcaria vulgaris* Bernh., *Heracleum sibiricum* L., *H. sosnowskyi* Manden., *H. mantegazzianum* Sommier et Levier, *Oenanthe aquatica* (L.) Poir., *Ostericum palustre* (Besser) Besser, *Pastinaca sativa* L., *Peucedanum palustre* (L.) Moench, *Pimpinella saxifraga* L., *Sanicula europaea* L., *Sium latifolium* L., *S. sisarum* L., *Torilis arvensis* (Huds.) Link, *T. japonica* (Houtt.) DC.

Apocynaceae: *Vinca minor* L.

Aristolochiaceae: *Aristolochia clematitis* L., *Asarum europaeum* L.

Asclepiadaceae: *Asclepias syriaca* L.

Asteraceae: *Achillea collina* (Becker ex Rchb. f.) Heimerl, *A. inundata* Kondr., *A. millefolium* L., *Ambrosia artemisiifolia* L., *Arctium lappa* L., *A. minus* (Hill.) Bern., *A. tomentosum* Mill., *Artemisia absinthium* L., *A. austriaca* Jacq., *A. campestris* L., *A. marschalliana* Spreng., *A. vulgaris* L., *Bellis perennis* L., *Bidens frondosa* L., *Calendula officinalis* (L.) Nees, *Carduus crispus* L., *Carlina biebersteinii* Bernh. ex Hornem., *Centaurea cyanus* L., *C. jacea* L., *C. stoebe* L., *Chondrilla juncea* L., *Cichorium intybus* L., *Cirsium arvense* (L.) Scop., *C. oleraceum* (L.) Scop., *C. palustre* (L.) Scop., *C. vulgare* (Savi) Ten., *Coreopsis auriculata* L., *Cosmos bipinnatus* Cav., *Crepis tectorum* L., *Cyclachaena xanthiifolia* (Nutt.) Fresen., *Erigeron acris* L., *E. annuus* (L.) Pers., *E. canadensis* L., *E. strigosus* Muhl. ex Willd., *Eupatorium cannabinum* L., *Galinsoga parviflora* Cav., *Helianthus tuberosus* L., *Helichrysum arenarium* (L.) Moench., *Hypochaeris radicata* L., *Inula britannica* L., *I. helenium* L., *Jacobaea vulgaris* Gaertn., *Lactuca muralis* (L.) Fresen (Mycelis muralis (L.) Dumort.), *L. serriola* L., *L. tatarica* (L.) C.A. Mey., *Lapsana communis* L., *Matricaria discoidea* DC., *Onopordon acanthium* L., *Picris hieracioides* L., *Pilosella officinarum* Vaill. (*Hieracium pilosella* L.), *P. cymosa* (L.) F.W. Schultz et Sch. Bip., *Psephellus dealbatus* (Willd.) K. Koch, *Senecio vernalis* Waldst., *S. vulgaris* L., *Solidago canadensis* L., *S. gigantea* Aiton., *S. virgaurea* L., *Sonchus arvensis* L., *S. asper* (L.) Hill, *S. oleraceus* L., *S. palustris* L., *Symphotrichum × salignum* (Willd.) G.L. Nesom, *S. novi-belgii* (L.) G.L. Nesom, *S. × versicolor* (Willd.) G.L. Nesom, *Tagetes patula* L., *Tanacetum vulgare* L., *Taraxacum officinale* F. H. Wigg., *Tragopogon dubius* subsp. *major* (Jacq.)

- Vollm., **Tripleurospermum inodorum* (C. Koch.) Schultz Bip., *Tussilago farfara* L., **Xanthium albinum* (Widd.) H. Scholz
- Balsaminaceae:** *Impatiens noli-tangere* L., **I. parviflora* DC.
- Berberidaceae:** **Berberis aquifolium* Pursh, **B. vulgaris* L., **Gymnospermium odessanum* (DC.) Takht.
- Betulaceae:** *Alnus glutinosa* (L.) Gaertn., *Betula pendula* Roth.
- Bignoniaceae:** **Catalpa bignonioides* Walter
- Boraginaceae:** *Anchusa arvensis* (L.) M. Bieb., **A. officinalis* L., *Asperugo procumbens* L., **Buglossoides arvensis* (L.) I.M. Johnst., **Cynoglossum officinale* L., *Echium vulgare* L., **Lappula squarrosa* (Retz.) Dumort., **Lithospermum officinale* L., **Myosotis arvensis* (L.) Hill., *M. micrantha* Pall. ex Lehm., *M. sparsiflora* J.C. Mikan ex Pohl, *Nonea pulla* (L.) DC., *Pulmonaria obscura* Dumort., *Symphytum asperum* Lepech., *S. officinale* L.
- Brassicaceae:** *Alliaria petiolata* (M. Bieb.) Cavara et Granda, **Arabidopsis thaliana* (L.) Heynh., **Armoracia rusticana* P. Gaertn., B. Mey. et Scherb., *Barbarea vulgaris* R. Br., *Berteroa incana* (L.) DC., **Brassica napus* L., **Capsella bursa-pastoris* (L.) Medik., *Cardamine amara* L., *C. dentata* Schult., *C. impatiens* L., *C. bulbifera* (L.) Crantz, *C. quinquefolia* (M. Bieb.) Schmalh., **Descurainia sophia* (L.) Webb ex Prantl, **Diploxys tenuifolia* (L.) DC., *Draba nemorosa* L., *D. verna* L., **Lepidium densiflorum* Schrad., **L. draba* L., **L. ruderales* L., **Raphanus raphanistrum* L., *Rorippa amphibia* (L.) Besser, *R. austriaca* (Crantz) Besser, *R. sylvestris* (L.) Besser, **Sinapis arvensis* L., **Sisymbrium loeselii* L., **S. officinale* (L.) Scop., **Thlaspi arvense* L.
- Campanulaceae:** *Campanula glomerata* L., *C. patula* L., *C. persicifolia* L., *C. rapunculoides* L., *C. rapunculus* L., *C. rotundifolia* L., *C. sibirica* L., *Jasione montana* L.
- Cannabaceae:** **Cannabis sativa* L., *Humulus lupulus* L.
- Caprifoliaceae:** *Lonicera caprifolium* L., *L. tatarica* L., *Sambucus ebulus* L., *S. nigra* L., *S. racemosa* L., *Viburnum opulus* L.
- Caryophyllaceae:** *Arenaria serpyllifolia* L., **Cerastium arvense* L., *C. holosteoides* Fries, *Cucubalus baccifer* L., *Dianthus armeria* L., *D. deltoides* L., *Gypsophila muralis* L., *Herniaria glabra* L., *Holosteum umbellatum* L., *Moehringia trinervia* (L.) Clairv., *Psammophiliella muralis* (L.) Ikonn., **Saponaria officinalis* L., *Silene coronaria* (L.) Clairv., *S. dichotoma* Ehrh., *S. flos-cuculi* (L.) Greuter et Burdet, *S. latifolia* subsp. *alba* (Mill.) Greuter et Burdet, *S. viscaria* (L.) Jess., *S. vulgaris* (Moench) Garcke, **Spergula arvensis* L., *Stellaria aquatica* (L.) Scop., *S. graminea* L., *S. holostea* L., *S. media* (L.) Vill., *S. nemorum* L., *S. palustris* Retz.
- Celastraceae:** *Euonymus europaeus* L., *E. verrucosus* Scop.
- Ceratophyllaceae:** *Ceratophyllum demersum* L.
- Chenopodiaceae:** **Atriplex hortensis* L., *A. patula* L., **A. prostrata* Boucher ex DC., **A. sagittata* Borkh., **A. tatarica* L. (*A. laciniata* L.), *Chenopodium album* L., **C. rubrum* L., **C. strictum* Roth
- Clusiaceae:** *Hypericum perforatum* L.
- Convolvulaceae:** *Calystegia sepium* (L.) R. Br., *Convolvulus arvensis* L., **Ipomoea purpurea* (L.) Roth
- Cornaceae:** *Cornus sanguinea* L.
- Corylaceae:** *Carpinus betulus* L., *Corylus avellana* L.
- Crassulaceae:** *Hylotelephium maximum* (L.) Holub., *H. maximum* subsp. *ruprechtii* (Jalas) Dostál, **Phedimus spurius* (M. Bieb.) 't Hart, *Sedum acre* L., **S. hispanicum* L.
- Cucurbitaceae:** **Echinocystis lobata* (Michx.) Torr. et A. Gray.
- Cuscutaceae:** **Cuscuta europaea* L.
- Dipsacaceae:** *Dipsacus pilosus* L., *Knautia arvensis* (L.) Coult., *Scabiosa ochroleuca* L.
- Elaeagnaceae:** **Elaeagnus angustifolia* L.
- Euphorbiaceae:** *Euphorbia cyparissias* L., *E. esula* L. (*E. kaleniczenkoi* Czern.), *E. semivillosa* Prokh., *E. virgata* Waldst. et Kit., *Mercurialis perennis* L.
- Fabaceae:** **Amorpha fruticosa* L., *Astragalus cicer* L., *A. glycyphyllos* L., **Caragana arborescens* Lam., *Chamaecytisus ruthenicus* (Fisch. ex Wol.) Klaskova, *Genista tinctoria* L., **Gleditsia triacanthos* L., *Lathyrus niger* (L.) Bernh., *Lathyrus pratensis* L., *L. sylvestris* L., **L. tuberosus* L., *L. vernus* (L.) Bernh., *Lotus corniculatus* L., **Lupinus polyphyllus* Lindl., *Medicago falcata* L., *M. lupulina* L., **M. sativa* L., *Melilotus albus* Medik., *M. officinalis* (L.) Pall., **Onobrychis viciifolia* Scop., *Ononis arvensis* L., **Robinia pseudoacacia* L., *Securigera varia* (L.) Lassen, *Trifolium alpestre* L., *T. arvense* L., *T. campestre* Schreb., *T. dubium* Sibth., *T. fragiferum* L., *T. medium* L., *T. montanum* L., **T. hybridum* L., *T. pratense* L., *T. repens* L., *Vicia cracca* L., *V. sativa* L., *V. sepium* L., **V. tetrasperma* (L.) Schreb., **V. villosa* Roth
- Fagaceae:** *Quercus robur* L., **Q. rubra* L.
- Fumariaceae:** **Corydalis cava* (L.) Schweigg. et Körte., *C. intermedia* (L.) Merat, *C. solida* (L.) Clairv., **Fumaria schleicheri* Soy.-Will., **F. officinalis* L.
- Geraniaceae:** *Erodium cicutarium* (L.) L'Her., **Geranium divaricatum* Ehrh., *G. palustre* L., *G. robertianum* L., **G. pusillum* L., *G. sanguineum* L., **G. sibiricum* L., *G. sylvaticum* L.
- Grossulariaceae:** **Ribes aureum* Pursh., *R. nigrum* L.
- Hippocastanaceae:** **Aesculus hippocastanum* L.
- Juglandaceae:** **Juglans ailantifolia* Carrière, **J. cinerea* L., **J. nigra* L., **J. mandshurica* Maxim., **J. regia* L., **J. subcordiformis* Dode

Lamiaceae: *Ajuga genevensis* L., *A. reptans* L., **Ballota nigra* L., *Betonica officinalis* L., *Chaiturus marrubiastrum* (L.) Rchb., *Clinopodium acinos* (L.) Kuntze, *C. vulgare* L., *Galeopsis bifida* Boenn, **G. ladanum* L., *G. pubescens* Besser, *Glechoma hederacea* L., *G. hirsuta* Waldst. et Kit., **Lamium album* L., **L. amplexicaule* L., *L. galeobdolon* (L.) L., *L. maculatum* L., **L. purpureum* L., **Leonurus cardiaca* L., *L. villosus* Desf. ex D'Urv., *Lycopus europaeus* L., *Marrubium vulgare* L., **Melissa officinalis* L., *Mentha aquatica* L., *M. arvensis* L., *M. longifolia* (L.) Huds., **M. piperita* L., **Nepeta cataria* L., *Origanum vulgare* L., *Phlomis tuberosa* L., *Prunella vulgaris* L., *Salvia nemorosa* L., *S. pratensis* L., **S. sclarea* L., *S. verticillata* L., *Scutellaria galericulata* L., **Stachys annua* (L.) L., *S. germanica* L., *S. officinalis* (L.) Trevis., *S. recta* L., *S. palustris* L., *S. sylvatica* L., *Teucrium chamaedrys* L., *T. scordium* L., *Thymus marschallianus* Willd., *T. pulegioides* L.

Loranthaceae: *Viscum album* L.

Lythraceae: *Lythrum salicaria* L.

Malvaceae: *Alcea rosea* L., **Althaea officinalis* L., *Malva thuringiaca* (L.) Vis., **M. neglecta* Wallr., **M. sylvestris* L.

Moraceae: **Morus alba* L.

Oleaceae: *Fraxinus excelsior* L., **F. pennsylvanica* Marshall, *Ligustrum vulgare* L., **Syringa vulgaris* L.

Onagraceae: *Circaea lutetiana* L. *Epilobium angustifolium* L., **E. adenocaulon* Hausskn., *E. hirsutum* (L.) Scop., *E. montanum* L., *E. palustre* L., *E. parviflorum* Schreb., **Oenothera biennis* L., **O. rubricaulis* Klebahn

Orobanchaceae: *Lathraea squamaria* L., *Melampyrum arvense* L., *M. nemorosum* L., *M. pratense* L., *Rhinanthus minor* Ehrh.

Oxalidaceae: **Oxalis dillenii* Jacq., **O. stricta* L.

Papaveraceae: *Chelidonium majus* L., **Papaver dubium* L., **P. rhoeas* L.

Plantaginaceae: *Plantago lanceolata* L., *P. major* L., *P. media* L., **Veronica arvensis* L., *V. beccabunga* L., *V. chamaedrys* L., *V. dillenii* Crantz., *V. longifolia* L., *V. officinalis* L., **V. persica* Poir., **V. polita* Fries, *V. prostrata* L., *V. serpyllifolia* L., *V. sublobata* M.A. Fisch., *V. teucrium* L., *V. verna* L.

Polygonaceae: *Fallopia convolvulus* (L.) A. Löve, **F. baldschuanica* (Regel) Holub, *F. dumetorum* (L.) Holub, *Persicaria amphibian* (L.) Delarbre., *P. hydropiper* (L.) Delarbre., *P. maculosa* Gray, *P. minor* (Huds.) Opiz., *Polygonum aviculare* L., **Reynoutria × bohémica* Chrtek et Chrtkova, **R. japonica* Houtt., *Rumex acetosa* L., *R. acetosella* L., *R. confertus* Willd., *R. crispus* L., *R. obtusifolius* L.

Portulacaceae: **Portulaca oleracea* L.

Primulaceae: **Lysimachia arvensis* (L.) U. Manns et Anderb., *L. nummularia* L., *L. punctata* L., *L. vulgaris* L., '*Primula veris* (L.) L.

Ranunculaceae: *Actaea spicata* L., *Anemonoides ranunculoides* (L.) Holub., *Caltha palustris* L., *Clematis recta* L., **C. vitalba* L., **Consolida regalis* S.F. Gray, *Ficaria verna* Huds., '*Isopyrum thalictroides* L., *Myosurus minimus* L., *Ranunculus acris* L., *R. auricomus* L., *R. circinatus* Sibth., *R. illyricus* L., *R. polyanthemus* L., *R. repens* L., *R. sceleratus* L., *Thalictrum minus* L.

Resedaceae: **Reseda lutea* L.

Rhamnaceae: *Frangula alnus* Mill., *Rhamnus cathartica* L.

Rosaceae: *Agrimonia eupatoria* L., *A. procera* Wallr., *Argentina anserina* (L.) Rydb., *Crataegus rhipidophylla* Gand., *Filipendula ulmaria* (L.) Maxim., *F. vulgaris* Moench., '*Fragaria × ananassa* (Duchesne ex Weston) Duchesne ex Rozier, *F. vesca* L., *F. viridis* Duch., *Geum rivale* L., *G. urbanum* L., *Malus sylvestris* (L.) Mill., *Potentilla argentea* L., *P. erecta* (L.) Raeusch., *P. supina* L., **Prunus armeniaca* L., *P. avium* (L.) L., **P. cerasus* L., **P. divaricata* Ledeb., *P. domestica* L., '*P. fruticosa* Pall., *P. padus* L., **P. serotina* Enrh., *P. spinosa* L., *Pyrus communis* L., *Rosa canina* L., *R. rugosa* Thunb., *Rubus caesius* L., *R. idaeus* L., **Sorbaria sorbifolia* (L.) A. Braun, *Sorbus aucuparia* L., **Spiraea japonica* L.

Rubiaceae: *Cruciata glabra* (L.) Ehrend., *Galium aparine* L., *G. odoratum* (L.) Scop., *G. palustre* L., *G. verum* L., **Pelargonium spurium* Willd. (*G. spurium* L.)

Rutaceae: **Phellodendron amurense* Rupr., **Ptelea trifoliata* L.

Salicaceae: *Populus alba* L., *P. nigra* L., *P. pyramidalis* Rozier., *P. tremula* L., *Salix acutifolia* Willd., *S. alba* L., *S. caprea* L., *S. cinerea* L., **S. fragilis* L., *S. triandra* L., *S. viminalis* L.

Santalaceae: *Thesium arvense* Horv., *T. ramosum* Hayne

Saxifragaceae: *Chrysosplenium alternifolium* L.

Scrophulariaceae: *Linaria vulgaris* Mill., *Odontites vulgaris* Moench., *Scrophularia nodosa* L., *S. umbrosa* Dumort., *Verbascum blattaria* L., *V. lychnitis* L., *V. nigrum* L., *V. phlomoides* L., *V. phoeniceum* L., *V. thapsiforme* Schrad.

Simaroubaceae: **Ailanthus altissima* (Mill.) Swingle

Solanaceae: *Alkekengi officinarum* Moench, **Datura stramonium* L., **Hyoscyamus niger* L., **Solanum lycopersicum* L., *S. dulcamara* L., **S. nigrum* L.

Tiliaceae: *Tilia cordata* Mill., **T. platyphyllos* Scop.

Ulmaceae: *Ulmus glabra* Huds., *U. laevis* Pall., **U. pumila* L.

Urticaceae: *Parietaria officinalis* L., *Urtica dioica* L., *U. galeopsifolia* Wierzb. ex Opiz., **U. urens* L.

Verbenaceae: **Verbena officinalis* L.

Violaceae: **Viola arvensis* Murray, *V. hirta* L., *V. mirabilis* L., *V. odorata* L., *V. reichenbachiana* Jord. ex Boreau,

V. tricolor L., *V. tricolor* subsp. *matutina* (Klokov) Valentine

Vitaceae: **Parthenocissus inserta* (A. Kern.) Fritsch., **P. quinquefolia* (L.) Planch. **Vitis vinifera* L.

Спонтанна флора урочища Феофанія (Київ, Україна)

Сергій Конякін *, Любов Губарь **

Державна установа "Інститут еволюційної екології НАН України", вул. академіка Лебедєва, 37, Київ, 03143, Україна; * ser681@ukr.net, ** ogubar@gmail.com

Проаналізовано видовий склад, систематичну та еколого-ценотичну структури флори урочища Феофанія. На даній території виявлено 650 видів судинних рослин, які презентують 337 родів та 94 родин. Природний компонент флори становить 48,8%, а синантропний – 51,2%. Аборигенна фракція включає 469 видів з 252 роду, 77 родин. Адвентивна флора представлена 181 видом зі 31 роду, 51 родини. Флора урочища Феофанія тяжіє до флори широколистяних лісів, але внаслідок синантропізації має більш тісні зв'язки з флорою Давнього Середземномор'я. Для неї характерно домінування трав'янистих рослин (555 видів / 85,3%), гемікриптофітів (394 види / 60,6%), рослин зі стрижневим типом кореневої системи (318 видів / 48,9%), з безрозетковими надземними пагонами (430 видів / 66,1%), з літньозеленим характером вегетації (321 вид / 95,5%), а також з безкореневищним типом підземних пагонів (206 видів / 31,7%). За результатами аналізу натуралізації видів чужорідних рослин флори урочища встановлено переважання кенофітів (111 видів) та епекофітів (90 видів), що пов'язано зі значним рекреаційно-туристичним та антропогенним навантаженням на екосистеми урочища.

Ключові слова: флористичне різноманіття, систематична структура, чужорідна фракція, урочище Феофанія