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RESEARCH ARTICLE

## Checklist of the flora of the vicinity of Balakliya (Kharkiv region, Ukraine): native and alien taxa, distribution of rare plants, new findings

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### Abstract

For the first time, information on the flora of the Siverskyi Donets basin in the vicinity of Balakliya town (Kharkiv region of Ukraine) was summarized based on the comprehensive analysis of published data, herbarium material, and own field examinations. Field surveys were conducted during September 2015 and March–July 2016. The surveyed areas were located mainly in the valleys of the Siverskyi Donets river and some of its tributaries within the former Balakliya district.

The conspectus of flora comprising 933 taxa of vascular plants (including 798 recorded during field surveys) has been prepared. In particular, 739 taxa of native and 194 taxa of alien plants were recorded. The habitats of 14 species from the Red Book of Ukraine were found. The locations of other protected, uncommon and new for the flora of the region plant species were also identified. Several taxa (i.e., some of the calciphytes like *Astragalus albicaulis*, *Linum czernjajevii*, *Odontarrhena tortuosa* subsp. *cretacea*, *Scutellaria supina*, and *Silene supina*) were found out of their previously known ranges. Newly established locations of some other species (e.g., *Ephedra distachya*, *Onosma simplicissima*, and *Ornithogalum boucheanum*) significantly complement previously known chorological data. Finally, information about new findings of such alien taxa actively expanding new areas as *Cornus sanguinea* subsp. *australis*, *Fraxinus pennsylvanica*, *Sedum sexangulare*, *Ulmus pumila*, and *Vitis vulpina* is provided.

It has been established that the flora of the Siverskyi Donets basin in the vicinity of Balakliya town is a rich natural center of phytodiversity being under active advertisement. Forest reclamation plantations play a significant role in spreading the alien plants. Railway and the pine terrace of the Siverskyi Donets also serve the migration corridors for many of such alien plants.

**Keywords:** flora, Siverskyi Donets, new localities, alien plant species, rare plant species

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**Authors' contributions:** O. Shynder set tasks, conducted field research, and identified plant samples; J. Negrash helped to create and analyze the database. Both authors wrote the manuscript.

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### Introduction

Balakliya is a town located in the south-eastern part of the Kharkiv region of Ukraine,

in the subzone of the Northern Steppe. The complex landscape system of the Siverskyi Donets basin leads to the formation of rich and diverse flora and allows its preservation in

conditions of significant anthropic pressure. Territorially, the vicinity of Balakliya is located between two national phytodiversity centers, Donetsk-Mzhanskyi and Izyumskyi (Dogadina & Bezrodnova, 2011). There are present all main floristic complexes of the Northern Steppe, including pine, petrophytic (cretaceous outcrops), and halophytic (salt meadows).

In the XIX century, this area left out of naturalists' attention. At the beginning of the XX century, Taliev (1904) inspected the cretaceous outcrops west of the village Milova in the river Milova's valley and noted the poverty of the species composition of its vegetation. Later, Kotov (1965) briefly described the forest vegetation of the Izium forestry on the left bank of Siverskyi Donets. Today, part of this complex combining various types of forests, floodplain meadows, and sandy areas belongs to the Landscape Park Izyumska Luka (Onyshchenko et al., 2016). Lavrenko (1973) inspected the western part of the Andriyivskyi Sukhyi Lyman within the former Balakliya district. Aquatic and coastal-water flora and vegetation of the Siverskyi Donets basin in the vicinity of Balakliya has been studied by several scientists (Chernaya, 1982; Dubyna, 2006; Kazarinova, 2015). There are also some publications about some locations, predominantly of rare species, in this region (Bezrodnova, 2015; Gorelova & Alekhin, 2002; Melnyk & Parubok, 2004; Shynder & Saidakhmedova, 2018; Vinichenko, 2007), including the fundamental work "Flora of the Ukrainian SSR" (Kotov et al., 1936–1965). Please also see the additional list of references in the Appendix.

Despite intensive investigations, the flora of the Siverskyi Donets basin within the Balakliya vicinity remained incompletely studied. Chorological data are crucial for protecting the rare plants and their habitats, particularly because, in the former Balakliya district's territory, there are located five sites of the Emerald Network (2021).

## Material and methods

Field surveys were conducted during September 2015 and March–July 2016. The surveyed areas are located mainly in the valleys of the Siverskyi Donets river and some of its tributaries within the former Balakliya

district. According to the new scheme of administrative-territorial zoning of Ukraine, our research area covered the communities of Balakliya town and the Donets settlement.

Collected specimens (403 species on 579 herbarium sheets) were deposited at the Herbarium of the M.M. Gryshko National Botanical Garden of the NAS of Ukraine (KWAH). The plants' photos from the studied area were also partly uploaded to the iNaturalist (2021) database.

The whole set of discovered taxa was divided into two main fractions – native and alien plants. Alien plants include those that penetrated the research area in the historical epoch (from ancient times to the present day). To clarify the primary distribution ranges and habitats of plants, we used several principal reference works (Prokudin et al., 1977; Protopopova, 1991; Scholz, 1996; Geltman, 2006; Iljinska et al., 2007; Protopopova et al., 2009; Zvyagintseva, 2013; Protopopova & Shevera, 2012, 2019). Many alien plants were first cultivated, and after that, they naturalized and spread spontaneously to the wild (escaped plants). Such escaped plants were included in the checklist only in case of confirmed reproduction by seeds outside of the primary cultivation area.

The nomenclature of taxa conforms to the Plant of the World Online (2021) and Euro+Med PlantBase (2021) databases.

Some locations of rare taxa listed in the Red Book of Ukraine (Didukh, 2009) were already known for the vicinity of Balakliya, so we present them here as confirmed.

It should be noted that the names of forests and forestries to which these forests belong do not coincide. For example, forest Kreydyanska Dacha belongs to the Balakliyske forestry, and forest Borysoglibskyi Bir belongs to the Vysokobirskke forestry.

The text periodically indicates several locations (urochysches) (Figs. 1 & 2):

Borshchivka – SE 2.5 km, a large gully (49.471125°, 36.966361°);

Bayrak – W, 4 km, gully (ravine) Khomyn (49.407044°, 36.776142°);

Milova – cretaceous outcrops on the right slopes of the valley of the Milova river (49.430986°, 36.662644°);

Balakliya – the valley of the oxbow Lyakhova, the branch of Siverskyi Donets (49.456931°, 36.821375°);



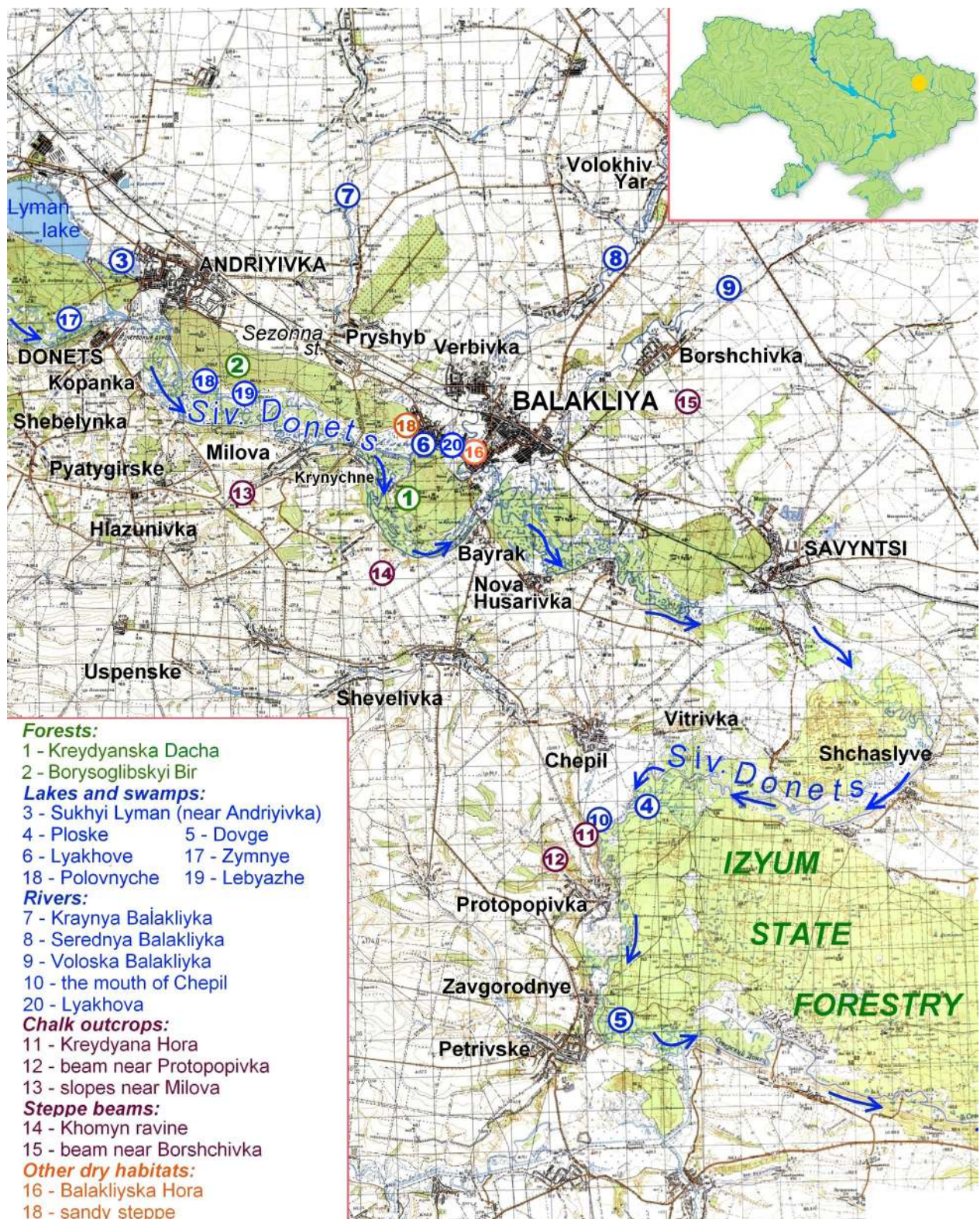


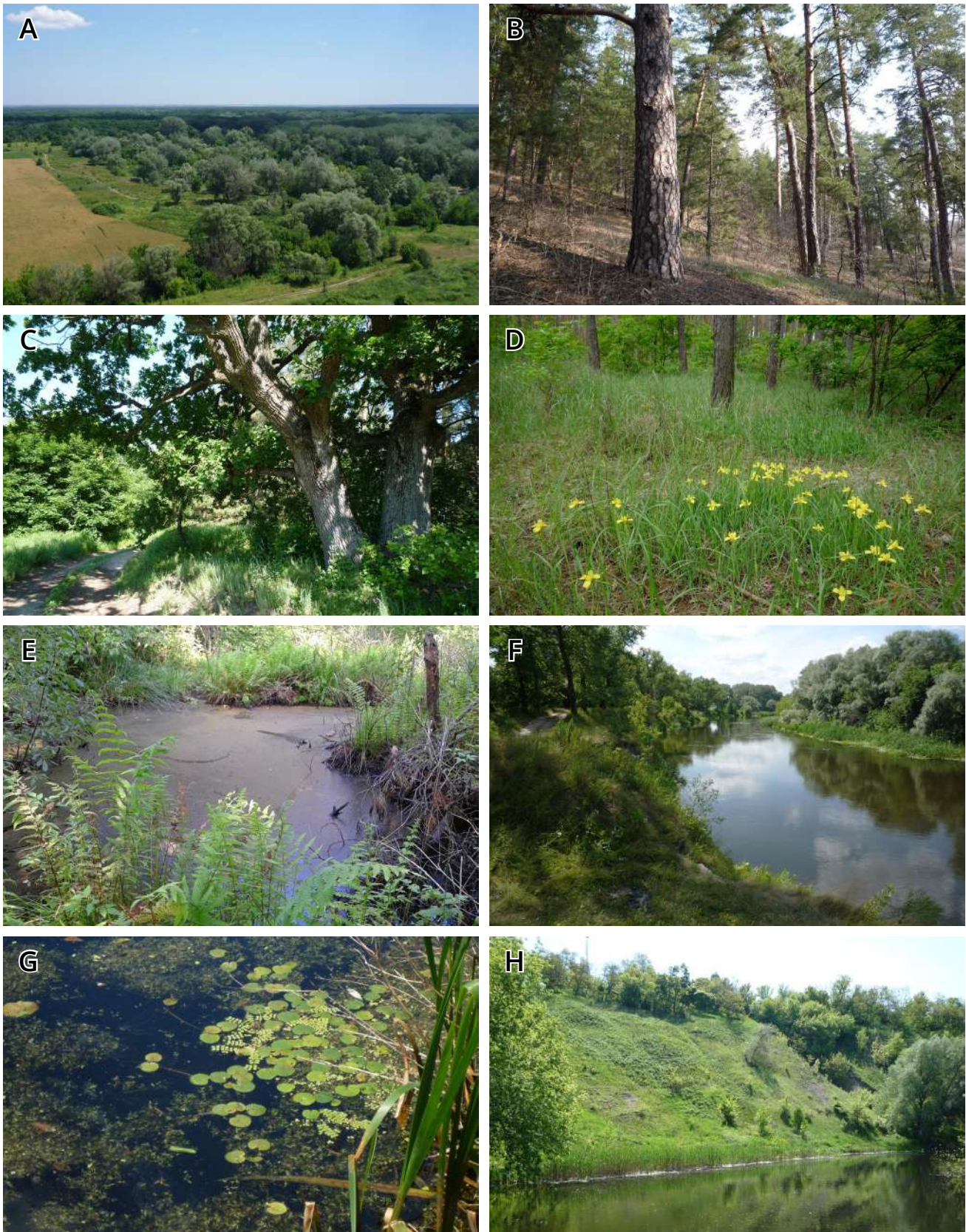
Figure 1. Map of Balakliya surroundings and the main locations mentioned in the text.

Balakliya – W, sandy steppe on the pine terrace of Siverskyi Donets (49.463975°, 36.784181°);

Protopopivka – NW, cretaceous outcrops on the slopes of a large gully (49.255167°, 36.902175°).

Following abbreviations were applied:  
 KWHA – herbarium voucher transferred to the KWHA herbarium;  
 BC – taxon listed in the revised Appendix I to the Berne Convention (2011);





**Figure 2.** Vegetation and landscapes of the Balakliya vicinity: **A**– the mouth of the Chepil river (locus classicus of the *Inula sabuletorum*) and the floodplain forest in the Landscape Park Izyumska Luka; **B** – pine forest on the sandy terrace of the Siverskyi Donets river; **C** – the fragment of an age-old oak forest in the quarter Nr 46 of Borysoglibskyi Bir; **D** – population of *Iris arenaria* in the quarter Nr 29 of Kreydyanska Dacha; **E** – *Thelypteris palustris* on the bank of the forest swamp in the quarter Nr 8 of Kreydyanska Dacha; **F** – the valley of the Siverskyi Donets river; **G** – *Salvinia natans* in aquatic vegetation; **H** – Balakliyska Hora in Balakliya.





**Figure 2.** Continued. I – tall-herb meadows near Petrivske village; J – *Ephedra distachya* among shrubs near Borshchivka village; K – steppe vegetation with *Stipa pennata*; L – *Stipa lessingiana* on the slopes of the Khomyn ravine; M – sandy steppe near Balakliya; N – salted meadows in the Borshchivka village; O – Kreydyana Hora near Protopopivka village; P – chalk outcrops near Milova village.



*f.r.* – data are taken from the field record;  
 RBU – taxon listed in the Red Book of Ukraine (Didukh, 2009);  
*r.s.* – species rare for the Kharkiv region according to Gorelova & Alekhin (2002) with a supplement of Bezrodnova (2015).

## Results and discussion

During the field surveys, we have recorded 798 taxa of vascular plants, 14 of which are listed in the Red Book of Ukraine (Didukh, 2009), and 58 are regionally rare. The data from the herbaria of the V.N. Karazin Kharkiv National University (CWU – Kharkiv, Ukraine); M.G. Kholodny Institute of Botany of the National Academy of Sciences of Ukraine (KW – Kyiv, Ukraine); M.M. Gryshko National Botanical Garden of the National Academy of Sciences of Ukraine (KWA – Kyiv, Ukraine); and V.L. Komarov Botanical Institute of the Russian Academy of Sciences (LE – St. Petersburg, Russia) were also taken into consideration and completed by information from the published sources. As a result, we have compiled a checklist comprising 933 taxa of vascular plants, including 739 native and 194 alien taxa (Appendix).

Many taxa in the studied area exist on the limit of their natural habitats. At the beginning of the 20th century, Lavrenko (Lavrenko, 1973; Kotov et al., 1936–1965) discovered many edge locations of boreal plant species that grow in the swamps of the Siverskyi Donets basin and on its sandy terraces in pine forests between Balakliya and Zmiiv. Most calciphytes in the studied area are on the verge of their geographical distribution. Our findings of some of them (e.g., *Astragalus albicaulis*, *Cotinus coggygria*, *Linum czernjajevii*, *Pimpinella tragium* subsp. *titanophila*, *Scutellaria supina*, and *Silene supina*) expand existing vision about their natural habitats. Among the plants that grow in the steppe habitats along the edge of their geographical distribution in the studied area are *Ephedra distachya*, *Erysimum aureum*, *Inula salicina* subsp. *sabuletorum*, *Onosma simplicissima*, and *Ornithogalum boucheanum*.

Among the actual directions of floristic researches is the fixation and monitoring of alien plants, many of which pose a threat to aboriginal biodiversity. Many alien plants in the new habitat are becoming invasive –

they reproduce en masse, interfere with the normal functioning of natural ecosystems, and often suppress and displace native plants (Protopopova et al., 2002, 2009; Geltman, 2006; Lambdon et al., 2008; Protopopova & Shevera, 2012).

In Ukraine, Protopopova and Shevera have long studied the questions of phytovasion, and recently published the list of highly invasive plants in the flora of Ukraine (Protopopova & Shevera, 2019). According to these authors, the eastern part of the Steppe zone (where Balakliya is located) is classified as a region with a fairly high saturation of species with high invasive potential – over 40 such taxa reported for this region. Zvyagintseva (2013) studied invasive plants directly in the Kharkiv region. She found that the urban flora of Kharkiv includes 312 alien plant taxa, 14 of which have a high invasive potential and are widespread in both artificial and natural phytocoenoses of the urban area.

During our study, we confirmed for the vicinity of Balakliya the presence of almost all highly active invasive plants that were reported (Protopopova & Shevera, 2019) for the eastern part of the Steppe (i.e., *Acer negundo*, *Asclepias syriaca*, *Centaurea diffusa*, *Fraxinus pennsylvanica*, *Impatiens parviflora*, *Prunus serotina*, *Solidago canadensis*, *Ulmus pumila*, etc.). Also, we found the locations of new and uncommon alien plants, some of which are in the expansion stage and may become invasive in the future (i.e., *Centaurea* × *varnensis*, *Cornus sanguinea* subsp. *australis*, *Mirabilis nyctaginea*, *Petrosedum rupestre*, *Populus* × *canadensis*, *Prunus tomentosa*, *Ptelea trifoliata*, *Rumex patientia*, *Sambucus racemosa*, *Sedum sexangulare*, *Vitis vulpina*, etc.).

Below we represent detailed descriptions of the locations of native plants listed in the Red Book of Ukraine (Didukh, 2009) and which are rare or present on the edge of the range of their natural distribution. This list is supported by notes about newly discovered alien plants in the flora of the Balakliya district. The complete list of taxa of the flora of the vicinity of Balakliya, including the citations of taxa authors, is represented in the Appendix.

Although the generalized list of taxa looks large, it is probably still not complete since we have not been able to cover all ecological groups of plants in the vicinity of Balakliya

during our field investigations, which lasted less than a full year. The taxonomic diversity of many plant groups (e.g., *Carex*, *Centaurea*, *Galium*, *Polygonum*, *Pilosella*, *Rosa*, and *Veronica*) has been studied only partly. Nevertheless, we hope that our study will contribute to the knowledge about the biodiversity of the Kharkiv region of Ukraine.

## Native plants

### Polypodiopsida

*Salvinia natans* (RBU) – In Balakliya, along the lower reaches of the rivers Voloska Balakliyka (KWAH) and Serednya Balakliyka, occasionally (*f.r.*), and also on the oxbow Lyakhova (Fig. 2). Several more locations were recorded in the south and south-eastern vicinity of Andriyivka – on Siverskyi Donets and its oxbows (*f.r.*).

### Gnetopsida

*Ephedra distachya* (*r.s.*) – south-eastern vicinity of Borshchivka, a large gully in 2.5 km distance, on the slope of the southern exposure with a loess outcrop (KWAH). The population is represented by two adjacent plots, each of which has an area of approximately 30 m<sup>2</sup> (Fig. 2). Coordinates of both sections: 49.47183°, 36.96881°, and 49.47148°, 36.97059°. In one of them (22.05.2017, together with N.B. Saidakhmedova) at the stage of flowering, we noted only male strobiles on plants, in another – only female strobiles, so these are probably two old vegetative clones.

### Angiosperms – Monocots

*Allium decipiens* (*r.s.*) – Western vicinity of Balakliya – sandy steppe, a few plants (KWAH).

*Bellevalia sarmatica* (*r.s.*) – Vicinity of Bayrak – in the lower part of the Khomyn ravine, above the coast of Siverskyi Donets, several generative individuals (KWAH).

*Epipactis helleborine* (RBU) – Northern vicinity of Protopopivka – in the floodplain oak in the valley of the Siverskyi Donets near the Kreydyana Mountain. In total, 55 generative individuals of the species were recorded in several locations (KWAH).

*Fritillaria meleagroides* (RBU) – Western vicinity of Balakliya, on the sandy steppe, several dozen individuals (KWAH); 0.6 km toward the northwest from the village Bayrak,

one individual was found near a small roadside plantation in the Siverskyi Donets floodplain (49.426039°, 36.834686°) (KWAH).

*Gladiolus imbricatus* (RBU) – According to literature sources, this is a rather widespread species in the vicinity of Balakliya (Gorelova & Alekhin, 2002). We noted a large population of the species in the floodplain on the left-bank meadow of the Siverskyi Donets, toward the north from the village Bayrak (KWAH). More than 200 generative individuals of the species were recorded on a 100×200 m plot near the Balakliya-Izyum highway (49.426319°, 36.833014°). The locus of this population is noted in the east vicinity of Bayrak, on the edge of a deciduous grove, at the top of the slope (49.417950°, 36.842819°) (KWAH). Ten generative individuals were growing on the forest's edge. Also, 14 generative and four virginal individuals grew nearby on fallow.

*Iris arenaria* (RBU, BC) – Western vicinity of Balakliya, sandy steppe, several dozen small clumps of plants (KWAH); south-western vicinity of Balakliya, Kreydyanska Dacha, the quarter Nr 29, and, partly, the western edge of the quarter Nr 30 of the Balakliyske forestry (49.433619°, 36.818361°), Landscape Reserve of Local Significance Kreydyanska Dacha (KWAH). In this population, on a total area of about 4 ha, we found near 100 individuals and their groups, mostly with 1–5-flowering shoots. In the most prominent clumps of this population were recorded 69 flowering shoots per 1 m<sup>2</sup>. Besides RBU, this taxon is also included in the list of rare species of the Landscape Park Izyumska Luka (Onyshchenko et al., 2016).

*Iris pumila* (*r.s.*) – South-eastern vicinity of Borshchivka, at the top of a large gully, along the edge of the plateau (*f.r.*).

*Liparis loeselii* (RBU) – It is included in the list of rare species of the Landscape Park Izyumska Luka (Onyshchenko et al., 2016). Requires confirmation.

*Muscari neglectum* (*r.s.*) – north-western vicinity of Protopopivka, on the slope of the gully with limestone outcrops (*f.r.*).

*Ornithogalum boucheanum* (RBU) – South-western vicinity of Borshchivka, in a ravine on the northern slope of a large gully (49.471361°, 36.970133°) (KWAH). This young population has the form of a stripe up to 30 m long. About 80 generative and over 100 virginal individuals have been recorded here. This species is

occasionally cultivated in Balakliya. Toward the west from the city center along the Lyakhova river banks, cultivated plantations of the species occasionally occur near the dwelling. Besides, planted and self-seeding clumps of the plants occur in the forest park (KWAH). Here, a spontaneous population of introduction origin is establishing.

*Stipa borysthena* (RBU) – Between Balakliya and Andriyivka – Borysoglibskyi Bir, several small loci on the lawn in the quarter Nr 46; on felled areas and along the glades in the quarters Nrs 57 and 65 of the Vysokobirske forestry (KWAH).

*Stipa capillata* (RBU) – The species is quite widespread and is listed for the Balakliya district from the outskirts of Dovgalivka (Bezrodnova, 2015) and other villages. We recorded the following locations: western vicinity of Balakliya – Borysoglibskyi Bir, the quarter Nr 128 of Vysokobirske forestry, a few individuals (KWAH); the eastern part of Balakliya, on the side of the highway, several young clumps of plants (KWAH); south-eastern vicinity of Borshchivka – in a large gully, on the slopes, abundantly (KWAH); north-western vicinity of Borshchivka – near the road on the right slope of the valley of the Voloska Balakliyka river (f.r.); between Milova and Glazunivka – on cretaceous outcrops and steppe areas (KWAH); north-western vicinity of Protopopivka – a large gully, on the tops of the slopes, abundantly (KWAH); Protopopivka, the bank of Siverskyi Donets, on steep slopes, in some places abundantly (f.r.).

*Stipa lessingiana* (RBU) – North-eastern vicinity of Glazunivka, slopes in the upper reaches of the Milova river (49.428053°, 36.653008°), occasionally (KWAH); south-eastern vicinity of Borshchivka – in a large gully, on the upper part of the southern slopes (discovered together with N.B. Saidakhmedova), two linear plots (20×5 m and 20×2 m) were found (KWAH); vicinity of Bayrak-Khomyn ravine (Fig. 2), three clumps of 100–200 generative individuals and several small clumps (KWAH).

*Stipa pennata* (RBU) – North-eastern vicinity of Glazunivka – a slope in the upper reaches of the valley of Milova river (KWAH); south-eastern vicinity of Borshchivka – in a large gully (discovered together with N.B. Saidakhmedova), locus 40×15 m above the edge of the abandoned quarry (Fig. 2), several

clumps of plants on the edge of pine stands, above the slope (KWAH); north-western vicinity of Protopopivka – on the cretaceous outcrops of a large gully, abundantly (KWAH).

*Tulipa sylvestris* subsp. *australis* (RBU) – Balakliya – in the floodplain forest park along the oxbow Lyakhova, many small clones (KWAH); northern vicinity of Bayrak – floodplain grove on the left bank of Siverskyi Donets, near the highway (KWAH); south-eastern vicinity of Bayrak, in the forest on the slope, abundantly (f.r.).

### Angiosperms – Eudicots

*Adenophora liliifolia* (BC) – Near Chepil and Vitrivka (Visjulina, 1961). There are no new findings, so it requires confirmation.

*Adonis vernalis* (RBU) – The species is provided from the vicinity of Milova and Pyatygirske (Melnyk & Parubok, 2004). The phrase “Balakliya district, Kirovo (Herbarium CWP, 1995)” (Melnyk & Parubok, 2004) probably refers to Kvitneve (former name – Kirove village) in the Blyznyukivskyi district of Kharkiv region. We confirmed the occurrence of *A. vernalis* in the south-western vicinity of Milova – on a small section of the meadow steppe, on the southern slope of the valley of the Milova river (slope 30° of north exposure), near the Shebelynskyi chalk quarry (49.433981°, 36.666033°) (KWAH). Over 50 generative individuals were found here in the plot of 30×30 m. Another locality was found in the north-western part of Protopopivka – on the cretaceous outcrops on the northern slope of a large gully (slope of south-eastern exposure with 5–30° inclination) (49.433981°, 36.666033°) (KWAH). Up to 500 generative individuals grow on a 200×100 m plot.

*Astragalus albicaulis* (r.s.) – Milova – south-western vicinity, cretaceous outcrops (KWAH).

*Astragalus pallescens* – Borshchivka – north-western vicinity, the northern slope of the valley of the Voloska Balakliyka river, on the roadside (KWAH); Borshchivka – south-eastern vicinity, on the slopes of a large gully, abundantly (f.r.).

*Astragalus ucrainicus* – Protopopivka – north-western vicinity, along the cretaceous outcrops in the great gully (KWAH).

*Centaureum pulchellum* (r.s.) – Protopopivka – northern vicinity, on the Siverskyi Donets banks (KWAH).



*Clematis integrifolia* (r.s.) – Milova – south-western vicinity, the southern slopes of the valley of the Milova river, occasionally (KWHHA).

*Dipsacus strigosus* (r.s.) – Protopopivka – northern vicinity, meadows, and edge of the forest in the Siverskyi Donets valley (KWHHA).

*Eremogone longifolia* (r.s.) – Balakliya – western vicinity, sandy steppe (KWHHA); Balakliya – south-western vicinity, Kreydyanska Dacha, often throughout the massif (KWHHA).

*Erysimum aureum* (r.s.) – Balakliya – south-western vicinity, Kreydyanska Dacha, occasionally (KWHHA); Protopopivka – northern vicinity, urochysche Prystin-1, the quarter Nr 14 of the Berestyanske forestry (KWHHA).

*Euphorbia microcarpa* – Bayrak – western vicinity, Khomyn ravine (KWHHA); vicinity of the Balakliya cement factory, the quarter Nr 34 of Vysokobirske forestry, on a glade in the pine forest (f.r.).

*Gypsophila oligosperma* – Milova – south-western vicinity, cretaceous outcrops (KWHHA); Protopopivka – Kreydyana Hora (KWHHA).

*Impatiens noli-tangere* – Between Balakliya and Andriyivka, the quarter Nr 46 of the Vysokobirske forestry, occasionally along the clearing (KWHHA).

*Jurinea cyanoides* – In the collection of N. Tzvelev: Balakliya – 4–5 km to the northeast, slope along the river Voloska Balakliyka (Vinichenko, 2007). We met this species mainly on the pine terrace of Siverskyi Donets: between Andriyivka and Balakliya – in Borysoglibskyi Bir, occasionally (f.r.); Balakliya – south-western vicinity, Kreydyanska Dacha (KWHHA); Balakliya – western vicinity, sandy steppe (f.r.); Petrovske – south-eastern vicinity, in the pine forest (f.r.).

*Limonium bungei* – Balakliya – Western vicinity, sandy steppe (KWHHA).

*Linum czernjajevii* Klokov (r.s.) – Protopopivka – north-western vicinity, cretaceous outcrops in a large gully (KWHHA).

*Linum flavum* (r.s.): Milova – South-western vicinity, cretaceous outcrops in the valley of the Milova river (KWHHA).

*Minuartia setacea* (r.s.) – Protopopivka – north-western vicinity, cretaceous outcrops of the northern slope of the great gully (KWHHA).

*Odontarrhena tortuosa* subsp. *cretacea* (RBU) – Milova – south-western vicinity, along the cretaceous outcrops along the Milova river, sporadically (KWHHA).

*Onosma simplicissima* (RBU) – Milova – south-western vicinity, on the cretaceous outcrops of the southern slope of the valley of the Milova river (KWHHA).

*Orthilia secunda* (r.s.) – Cited for Balakliya (Barbarych, 1957); we discovered this location together with N.B. Saidakhmedova in Kreydyanska Dacha, in the quarter Nr 29 of the Balakliyske forestry (KWHHA).

*Pimpinella tragiium* subsp. *titanophila* (r.s.) (Bezrodnova, 2015) – Milova – south-western vicinity, on the dumps of the Shebelynskyi chalk quarry (KWHHA), and on the cretaceous outcrops of the Milova river valley (KWHHA).

*Pulsatilla pratensis* (RBU) – widespread on the pine terrace of Siverskyi Donets, recorded in many quarters of Balakliya (KWHHA) and Vysokobirske (KWHHA) forestries. In some quarters, including felled areas, it has a high population density.

*Salvia aethiopsis* (r.s.) – Milova – south-western vicinity, on the cretaceous outcrops (KWHHA); Balakliya – eastern part, often along roadsides (f.r.); Bayrak – western vicinity of the ravine Khomyn (f.r.); Borshchivka – northern vicinity, the slopes of the valley of the Voloska Balakliyka river (f.r.); Protopopivka – northern and south-western vicinity, often (f.r.).

*Salvia pratensis* – Milova – south-western vicinity, the slopes of the Milova river valley (KWHHA).

*Sanguisorba officinalis* – Bayrak – northern vicinity, floodplain meadow in the valley of Siverskyi Donets (KWHHA); Balakliya – south-western vicinity, Kreydyanska Dacha, in wet combe (f.r.).

*Scorzonera ensifolia* – Andriyivka – southern vicinity, on the sands, a lot (KWHHA); between Balakliya and Andriyivka – Borysoglibskyi Bir, occasionally (KWHHA).

*Scutellaria supina* (RBU) – It is reported for the vicinity of Pyatygirske (Bezrodnova, 2015). We found probably the same locality in the south-western vicinity of Milova on cretaceous outcrops (KWHHA).

*Silene supina* (r.s.) – Protopopivka – north-western vicinity, cretaceous outcrops in a large gully (KWHHA).

*Spergula arvensis* – Balakliya – south-western vicinity, Kreydyanska Dacha, the quarter Nr 29 of Kreydyanske forestry, on a large glade, on the sands, often (KWHHA).

*Symphytum tauricum* – Balakliya – the northern edge, on homesteads in the military

base, as a weed (KWAH); Bayrak – western vicinity, roadside thickets of shrubs (*f.r.*); Bayrak – western vicinity, ravine Khomyn (KWAH).

*Thalictrum lucidum* (r.s.) – Balakliya – eastern vicinity, the valley of the river Voloska Balakliyka, abundantly (KWAH).

*Thymus × dimorphus* – Borshchivka – south-eastern vicinity, on the slopes of a large gully (KWAH); Borshchivka – northern vicinity, the northern slope of the valley of the Voloska Balakliyka river (KWAH); Protopopivka – north-western vicinity, cretaceous outcrops of the northern slope of the great gully (KWAH).

*Thymus calcareus* (r.s.) – Milova – south-western vicinity, cretaceous outcrops on the Milova river (KWAH).

*Tragopogon podolicus* – It is provided for the city of Balakliya and neighboring districts (Klokov, 1965), but in the recent revision it is not indicated for the region (Gorelova & Alekhin, 2002). We recorded the following localities: Balakliya – the northern part, the territory of the military base (KWAH), and near the railway station (*f.r.*); Balakliya – western vicinity, sandy steppe (*f.r.*), and along the pine terrace of Siverskyi Donets (*f.r.*).

## Alien plants

### Angiosperms – Monocots

*Typha laxmannii* – Balakliya – western part, micro-district Druzhba, in a wet depression between homesteads (*f.r.*); Balakliya – western vicinity, near the lake Lyakhove (*f.r.*); Protopopivka – north-western vicinity, in a drying stream at the bottom of a large gully (KWAH).

### Angiosperms – Eudicots

*Alkekengi officinarum* – Protopopivka – north-western vicinity, in robinia planting, the quarter Nr 12 of the Berestyanske forestry, abundantly (KWAH).

*Artemisia biennis* – Balakliya – near the railway station, in the culture near the estate and nearby, on the ruderal areas, several dozen individuals (KWAH).

*Cornus sanguinea* subsp. *australis* – throughout the territory, often in forest plantations, from which it spreads to the adjacent territories, in particular, in the town of Balakliya – along the railway.

*Cotoneaster acutifolius* – Balakliya – south-western vicinity, Kreydyanska Dacha,

occasionally (KWAH); between Balakliya and Andriyivka – Borysoglibskyi Bir, sporadically in different quarters (*f.r.*).

*Crataegus cf. chrysocarpa* – Balakliya – north-western vicinity, in the valley of the river Serednya Balakliyka (KWAH), several probably self-seeding young generative individuals.

*Fraxinus pennsylvanica* – sporadically in forest plantations, from which it spreads to the adjacent areas.

*Gypsophila perfoliata* – Milova – south-western vicinity, dumps of the Shebelinskyi chalk quarry, scattered (KWAH).

*Mirabilis nyctaginea* – Balakliya – on the railway embankment, quite abundantly (*f.r.*).

*Parthenocissus vitacea* – Balakliya – south-western vicinity, in some quarters of Kreydyanska Dacha (*f.r.*).

*Phedimus hybridus* – Balakliya – south-western vicinity, Kreydyanska Dacha, the quarter Nr 22 of the Balakliyske forestry, several plants' clumps in the pine forest, on both sides of the trail (KWAH).

*Prunus mahaleb* – Protopopivka – north-western vicinity, cretaceous outcrops of the northern slope of a huge gully (KWAH); Balakliya – south-western vicinity, Kreydyanska Dacha, occasionally (KWAH); between Balakliya and Andriyivka – Borysoglibskyi Bir, occasionally, mainly on felled areas and glades. It often occurs as a part of afforestation.

*Prunus serotina* – Protopopivka – north-western vicinity, in the forest crops, often (KWAH); Borshchivka – northern vicinity, afforestation on the slopes of the valley of the river Voloska Balakliyka, produces self-seeding (*f.r.*); between Balakliya and Andriyivka – Borysoglibskyi Bir, sporadically throughout the massif, in some places abundantly (*f.r.*).

*Ptelea trifoliata* – Bayrak – western vicinity, in forest plantations near Khomyn ravine and on the slope of the valley of Siverskyi Donets (KWAH).

*Ribes aureum* – It is occasionally cultivated and occurs in forest crops, where it produces self-seedings. The following spontaneous habitats were noted: Balakliya – surrounding, Kreydyanskyi Bir, the quarter Nr 8 of Balakliyske forestry (KWAH); *ibid.*, the quarter Nrs 50 and 51 (*f.r.*); Bayrak – western vicinity, afforestation on the edge of the slopes of the valley of Siverskyi Donets (*f.r.*).



*Ribes rubrum* – Balakliya – south-western vicinity, Kreydyanska Dacha, the quarter Nr 8 of the Balakliyske forestry, several self-seeding individuals (KWAH).

*Ribes uva-crispa* – Balakliya – northern part, in the park on the territory of the military base, self-seeding (KWAH); Balakliya – south-western vicinity, Kreydyanska Dacha, the quarter Nr 5 of the Balakliyske forestry (KWAH).

*Sedum sexangulare* – Between Balakliya and Andriyivka – Borysoglibskyi Bir, the quarter Nr 44 of the Vysokobirskhe forestry, several clumps of plants on a clearing in the pine forest (KWAH); in the same forest, quarter Nr 11, on a sandy road, a small number. The finding of this Central European species in the Balakliya district's flora indicates that this species migrates to the east along the pine terraces of Siverskyi Donets, expanding its secondary range.

*Ulmus pumila* – Adult 30–50-year-old individuals occur in urban plantations in Balakliya and some plantations in the forestries. Invasive colonies were noted in certain places: Balakliya – center, around the park (KWAH); western vicinity of the Balakliya cement plant – on the edge of Borysoglibskyi Bir, planted trees and in some places self-seeding individuals are abundant (*f.r.*).

*Vitis vulpina* – Balakliya – western vicinity, Borysoglibskyi Bir, the quarter Nr 128 of the Vysokobirskhe forestry, a small invasive population on a slope in the pine forest (KWAH); Balakliya – south-western vicinity, Kreydyanska Dacha, the quarter Nr 8 of Balakliyske forestry, adult specimen (KWAH); Balakliya – sporadically on ruderal and clogged areas (*f.r.*).

New locations of aboriginal and alien plant species of the Siverskyi Donets basin in the Balakliya region supplement the existing information about the region's flora. The overall floristic richness of the Balakliya region is relatively high, although it is conceding to the well-known regional centers of phytodiversity. All the main floristic complexes of the Northern Steppe (nemoral, boreal, steppe, psammophytic, calcephytic, meadow, and swampy) are combined in the Balakliya natural center of biodiversity. The landscape basis of this center is formed by the valley of Siverskyi Donets with a system

of tributaries, which is located between the Lyman group of lakes from the northwest and Izyumska Luka from the east.

Some of the listed species were found within the Landscape Reserve of Local Significance Kreidyanska Dacha (quarters Nrs 18–21, 24–30, 32–38, and 45–67 of the Balakliyske forestry). In particular, large populations of *Jurinea cyanoides* and *Pulsatilla pratensis* and the local population of *Iris arenaria* are located there, which testifies the phytodiversity value of this reserve. During the study, other valuable areas with rare plants deserving protection, particularly the steppe gully in the vicinity of Borshchivka (Shynder & Saidakhmedova, 2018), were also found.

Many alien (mostly escaped) plant species, which are new to the flora of the region and are in the expansion process, were recorded. Here, the most invasively active are taxa that are widely used in forest reclamation plantations (i.e., *Cornus sanguinea* subsp. *australis*, *Fraxinus pensylvanica*, *Prunus mahaleb*, *P. serotina*, *Ptelea trifoliata*, *Robinia pseudoacacia*, and *Ulmus pumila*). The railway helps distribute the adventive plant species, among which are xenophytes (alien plants that spread spontaneously, e.g., *Mirabilis nyctaginea*) and escaped plants (primarily those used in the wind-breaking plantations). Many adventitious species were recorded on the pine terraces of Siverskyi Donets, indicating favorable conditions for them.

## Conclusions

In general, 933 taxa of vascular plants were recorded in the flora of the Siverskyi Donets basin within the former Balakliya district of the Kharkiv region of Ukraine, including 798 taxa observed directly during the field surveys. Such high taxonomic diversity indicates that the studied area is a large regional center of floristic diversity, formed by all the Northern Steppe's major floristic complexes. Moreover, many new rare aboriginal plant taxa locations were discovered, which testifies the high zoological value of some areas. Simultaneously, the presence of new and invasive-active alien plants confirms the active processes of adventisation of the flora of the region. Forest reclamation plantations

play a significant role in the spread of such alien plants. Similarly, the railway and pine terraces of Siverskyi Donets make the migration corridors for many of these species in the district.

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**Appendix.** Checklist of the flora of the outskirts of Balakliya within the former Balakliya district (Kharkiv region, Ukraine).

Besides the species observed directly on the studied flora territory, over 40 additional species that were found close to the administrative boundary of the former Balakliya district are represented in this checklist. Some of them may be detected within the study area in the future. Such species are listed without numbers. Also, to avoid mistakes in the future, several taxa that are clearly erroneous or were not confirmed in other sources are included in this checklist. The nomenclature of taxa is presented according to contemporary databases (Stevens, 2017; Euro+Med, 2021; Plant of the World Online, 2021). For some taxa, synonyms common for Eastern European botanical literature are additionally provided. At the first mention of the geographical objects, their toponymic category (village, urban-type settlement, river, etc.) is indicated. Acronyms of herbaria (KWA, KW, LE, and CWU) are provided following Thiers (2021).

Following abbreviations and shortenings are applied in the Appendix: **alien** – alien (non-native) plant; **native** – native plant; **cult.** – cultivated plant; **error** – erroneous data; **n.conf.** – needs confirmation; **nat.h.** – natural hybrid; **N, S, E, W, SW, etc.** – indicate the direction from the specified settlement to the location of the plant; **!!** – the plant was observed during the investigation.

Nr	Taxon	Category	Distribution
LYCOPODIOPSIDA			
<b>Lycopodiaceae</b>			
	<i>Lycopodium clavatum</i> L.		grows near the study area: Zmiiv district, in the birch forest near the lake Lyman, leg. Lavrenko (Fomin, 1936)
PSILOTOPSIDA			
<b>Ophioglossaceae</b>			
	<i>Botrychium virginianum</i> (L.) Sw.	error	provided for Balakliya district by a secondary quote (Parnikoza & Celka, 2016). In the original report, this site was found in Pecheneg district of Kharkiv region in 1926 by K. Uhrynskyi (Fomin, 1936)
EQUISETOPSIDA			
<b>Equisetaceae</b>			
1	<i>Equisetum arvense</i> L.	native	!!

## Appendix. Continued.

Nr	Taxon	Category	Distribution
2	<i>Equisetum fluviatile</i> L.	native	near Andriyivka urban-type settlement – Sukhyi Lyman swamp (Lavrenko, 1973); urban-type settlement Savyntsi – in Siverskyi Donets, 03.06.1980 (Dubyna, 2006)
3	<i>Equisetum hyemale</i> L.	native	Borschivka – S 2.5 km, in the gully, KWAH (sub <i>E. hyemale</i> ) !! – non typical plants; det. 02.2021, R. Walkowiak & A. Baransky (sub <i>E. × moorei</i> Newman [= <i>E. hyemale</i> × <i>E. ramosissimum</i> Desf.]). Available online from <a href="https://www.inaturalist.org/observations/69303142">https://www.inaturalist.org/observations/69303142</a> and <a href="https://www.inaturalist.org/observations/69303141">https://www.inaturalist.org/observations/69303141</a> ; comment on 02.2021 by D. Davydov – “ramosissimum (?)”
4	<i>Equisetum palustre</i> L.	native	!!
POLYPODIOPSIDA			
<b>Aspleniaceae</b>			
5	<i>Athyrium filix-femina</i> (L.) Roth	native	between Balakliya and Andriyivka – Vysokobirske forestry (urochysche Borysoglibskiy Bir), alder swamp, 2016, KWAH !!
6	<i>Cystopteris fragilis</i> (L.) Bernh.	native	Borshchivka village – S, pine forest, leg. N.B. Saidakhmedova!
7	<i>Thelypteris palustris</i> Schott	native	quarter Nr 8 of Kreydyanska Dacha, in the forest swamp !! Borysoglibskiy Bir – in the alder forest !!
DENNSTAEDTIACEAE			
8	<i>Pteridium aquilinum</i> (L.) Kuhn	native	Vysokobirske forestry, quarter Nr 56, 2016, KWAH !!
<b>Polypodiaceae</b>			
9	<i>Dryopteris carthusiana</i> (Vill.) H.P. Fuchs	native	quarter Nr 5 of Kreydyanska Dacha forest, 2016, KWAH !!
10	<i>Dryopteris filix-mas</i> (L.) Schott	native	Kreydyanska Dacha, 2016, KWAH !!; Borshchivka – S, pine forest !!
<b>Salviniaceae</b>			
11	<i>Salvinia natans</i> (L.) All.	native	Petrivske village, 08.08.1980 (Dubyna, 2006); Savyntsi – in Siverskyi Donets, 03.11.1980 (Dubyna, 2006); Andriyivka (Fomin, 1936); Chepil village (Fomin, 1936); Balakliya – in Voloska Balakliyka, 2016, KWAH !! – in Srednya Balakliyka !!; in Lyakhova; Andriyivka – S, in Siverskyi Donets !!; Donets village – in Siverskyi Donets, 17.09.2011 (Kazarinova, 2015); Savyntsi – in Siverskyi Donets, 03.08.2011 (Kazarinova, 2015)
PINOPSIDA			
<b>Cupressaceae</b>			
12	<i>Juniperus communis</i> L.	native	Pryshyb station (now – Sezonna station), leg. Pidoplichko (Kondratyuk, 1960)
<b>Pinaceae</b>			
13	<i>Pinus sylvestris</i> L.	native	sandy terrace of Siverskyi Donets and its tributaries. Most of the recent pine forests have an artificial origin, but in the XVI-XVII centuries, natural pine forests existed between Balakliya and Andriyivka (Dryuchenko, 1929)
	<i>Pinus sylvestris</i> var. <i>syvestris</i> f. <i>fominii</i> Kondr. ( <i>Pinus fominii</i> Kondr.)	native	Izyum State Forestry (Kotov, 1965)
GNETOPSIDA			
<b>Ephedraceae</b>			
14	<i>Ephedra distachya</i> L.	native	Borshchivka – S 2.5 km, in the gully; two small fragments of the population, 2016, KWAH !! (Shynder & Saidakhmedova, 2018)



Checklist of the flora of the vicinity of Balakliya (Kharkiv region, Ukraine)

Appendix. Continued.

Nr	Taxon	Category	Distribution
ANGIOSPERMS – MAGNOLIIDS			
<b>Aristolochiaceae</b>			
15	<i>Aristolochia clematitidis</i> L.	native	Pyatyhirske village – SE, gully grove !!; between Balakliya and Bayrak village – in the floodplain grove in the valley of Siverskyi Donets !!; Balakliya – valleys !!
16	<i>Asarum europaeum</i> L.	native	Protopopivka village – N, in the forest, 2016, KWHA !!
<b>Nymphaeaceae</b>			
17	<i>Nuphar lutea</i> (L.) Smith	native	in Siverskyi Donets !!
18	<i>Nymphaea alba</i> L.	native	Vitrivka village – in Siverskyi Donets (Savenkov, 1910); large reservoirs !!
19	<i>Nymphaea candida</i> C. Presl	native	Donets urban-type settlement – in Zymnye lake, 09.06.2012 (Kazarinova, 2015)
ANGIOSPERMS – MONOCOTS			
<b>Acoraceae</b>			
20	<i>Acorus calamus</i> L.	alien	Petrivske – an arm of Siverskyi Donets, 07.08.1980 (Dubyna, 2006); Donets – in Zymnye lake, 09.06.2012 (Kazarinova, 2015); Savyntsi – in Siverskyi Donets, 03.08.2011 (Kazarinova, 2015); Balakliya – SW, in Lyakhova, 2016, KWHA !!
<b>Alismataceae</b>			
	<i>Alisma gramineum</i> Lej. ( <i>Alisma loeselii</i> Gorski ex Juzep.)	error	Bordzilovskiy & Lavrenko (1940) suggested it for Balakliya district, but in reality, it concerns the Starobilsk district of the Luhansk region
21	<i>Alisma plantago-aquatica</i> L.	native	!!
22	<i>Caldesia parnassifolia</i> (Bassi) Parl.	native	Balakliya: extinct (Didukh, 2009)
23	<i>Sagittaria sagittifolia</i> L.	native	Vitrivka – in Siverskyi Donets (Savenkov, 1910); Petrivske – an arm of Siverskyi Donets, 08.1980 (Dubyna, 2006); Savyntsi – in Siverskyi Donets, 03.06.1980 (Dubyna, 2006); Protopopivka – in Siverskyi Donets !!; Andriyivka – S, in Siverskyi Donets !!; Andriyivka – W, Lyman lake, 23.06.2012 (Kazarinova, 2015); Savyntsi – in Siverskyi Donets, 03.08.2011 (Kazarinova, 2015)
<b>Amaryllidaceae</b>			
24	<i>Allium angulosum</i> L.	native	near Balakliya, 30.06.1925, leg. Pryanishnikov (Omelchuk, 1962); Balakliya – S, along the roadside the valley of Siverskyi Donets, 2016, KWHA !!; quarter Nr 39 of Kreydyanska Dacha !!; Sezonna station – S, Borysoglibskiy Bir !!; Kreydyanska Dacha (quarters Nrs 8, 36, etc.) !!; Balakliya – W, sandy steppe near the micro-district Druzhba !!; Petrivske – SE, pine terrace of Siverskyi Donets !!
25	<i>Allium decipiens</i> Fisch. ex Schult. & Schult. f.	native	Balakliya (Seregin, 2007); Balakliya – W, sandy steppe near the micro-district Druzhba, 2016, KWHA !!
26	<i>Allium flavescens</i> Besser	native	Milova village – SW, 2016, KWHA !!
27	<i>Allium flavum</i> (L.) subsp. <i>tauricum</i> (Besser ex Rchb.) K. Richt. ( <i>Allium paczoskianum</i> Tuzs.)	native	Petrivske – SE, pine terrace of Siverskyi Donets !!
28	<i>Allium oleraceum</i> L.	native	Balakliya – N, military base, 2016, KWHA !!; Andriyivka – S, the valley of Siverskyi Donets, 2016, KWHA !!; Balakliya !!; Borshchivka – NW, forest plantation !!

## Appendix. Continued.

Nr	Taxon	Category	Distribution
29	<i>Allium rotundum</i> L.	native	Balakliya – W, 2016, KWHA !!; Balakliya – S, in the valley of Siverskyi Donets, 2016, KWHA !!; Bayrak village, 2016, KWHA !!; Milova – W, in the valley 2016, KWHA !!; Protopopivka – N !!; Balakliya – W, on the meadows !!; Balakliya – W, sandy steppe !!; Petrivske – SE, pine terrace of Siverskyi Donets !!
30	<i>Allium sphaerocephalon</i> L.	native	quarter Nr 8 of Kreydyanska Dacha !!
<b>Araceae</b>			
31	<i>Lemna gibba</i> L.	native	Balakliya – mouth of Voloska Balakliyka (Chernaya, 1982); near Zalyman village – in Siverskyi Donets (Chernaya, 1982); Balakliya – in Balakliyka, 25.08.1979 (Dubyna, 2006)
32	<i>Lemna minor</i> L.	native	!!
33	<i>Lemna trisulca</i> L.	native	Andriyivka – S, Polovnyche lake, 2016, KWHA !!; Balakliya – in Balakliyka, 25.08.1979 (Dubyna, 2006); Andriyivka – W, Lyman lake, 23.06.2012 (Kazarinova, 2015); Donets – in Siverskyi Donets, 17.09.2011 (Kazarinova, 2015); Savyntsi – in Siverskyi Donets, 07.08.1980 (Dubyna, 2006); Savyntsi – in Siverskyi Donets, 03.08.2011 (Kazarinova, 2015); Petrivske – an arm of Siverskyi Donets, 08.07.1986 (Dubyna, 2006); Donets – Zymnye lake, 09.06.2012 (Kazarinova, 2015); Izyum State Forestry, Dovge lake, [49.1877°, 36.9421°], 07.1907 (Savenkov, 1910)
34	<i>Spirodela polyrhiza</i> (L.) Schleid.	native	!!
<b>Asparagaceae</b>			
35	<i>Anthericum ramosum</i> L.	native	Milova – SW, 2016, KWHA !!; Balakliya – SW, quarter Nr 5 of Kreydyanska Dacha, 2016, KWHA !!; Sezonna station – SW, in Borysoglibskyi Bir !!
36	<i>Asparagus officinalis</i> L.	native	Andriyivka – S, 2016, KWHA !!; Balakliya – N, military base, 2016, KWHA !!; W, 2016, KWHA !!; Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!; Kreydyanska Dacha !!; Bayrak – W, Khomyn ravine !!; between Andriyivka and Balakliya – Borysoglibskyi Bir !!; Milova – SW, chalky slopes !!; Protopopivka – N, Kreydyana Hora !!
37	<i>Bellevia sarmatica</i> (Pall. ex Georgi) Woronow	native	Bayrak – W 4 km, Khomyn ravine, 2016, KWHA !!
38	<i>Convallaria majalis</i> L.	native	Kreydyanska Dacha !!; Bayrak – E, in the oak forest !!; between Andriyivka and Balakliya – Borysoglibskyi Bir !!; Protopopivka – N, grove in the valley !!
39	<i>Hyacinthella leucophaea</i> (K. Koch) Schur	native	Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!; Protopopivka – NW, 2016, KWHA !!
40	<i>Muscari neglectum</i> Guss. ex Ten.	native	Protopopivka – NW, chalk slopes in the gully !!
41	<i>Ornithogalum boucheanum</i> (Kunth) Asch.	native	Borshchivka – S 2.5 km, in the gully, 2016, KWHA !! (Shynder & Saidakhmedova, 2018); Balakliya – forest park in Lyakhova valley, planted and escaped plants, 2016, KWHA !!
42	<i>Polygonatum multiflorum</i> (L.) All.	native	!!
43	<i>Polygonatum odoratum</i> (Mill.) Druce	native	!!
44	<i>Scilla siberica</i> Andrews	native	near Bayrak, 2016, KWHA !!; Protopopivka !!; Balakliya !!; etc.



Checklist of the flora of the vicinity of Balakliya (Kharkiv region, Ukraine)

Appendix. Continued.

Nr	Taxon	Category	Distribution
<b>Butomaceae</b>			
45	<i>Butomus umbellatus</i> L.	native	Petrivske – an arm of Siverskyi Donets, 08.1980 (Dubyna, 2006); Andriyivka – in Siverskyi Donets, 03.06.1980 (Dubyna, 2006); Savyntsi – in Siverskyi Donets, 07.08.1980 (Dubyna, 2006); Milova – E, valley of Siverskyi Donets !!; Balakliya – Siverskyi Donets, 03.06.1980 (Dubyna, 2006); Balakliya – in valleys !!; Borshchivka – NW, in valley of Voloska Balakliyka !!; Protopopivka – on the Siverskyi Donets bank !!; Andriyivka – S, in Siverskyi Donets !!; Savyntsi – in Siverskyi Donets, 03.08.2011 (Kazarinova, 2015)
<b>Cyperaceae</b>			
46	<i>Blysmus compressus</i> (L.) Panz. ex Link	native	near Andriyivka – Sukhyi Lyman swamp (Lavrenko, 1973)
47	<i>Bolboschoenus maritimus</i> (L.) Palla	native	Petrivske – an arm of Siverskyi Donets, 07.08.1980 (Dubyna, 2006); Savyntsi – in Siverskyi Donets, 03.08.2011 (Kazarinova, 2015); Balakliya – valleys, 2016, KWHA !!
48	<i>Carex acuta</i> L. <i>Carex acutiformis</i> Ehrh. <i>Carex canescens</i> L. <i>Carex cespitosa</i> L. <i>Carex chordorrhiza</i> L. f.	native	in the valleys !! grows near the study area: Zmiiv district, near Lyman lake (Lavrenko, 1973) grows near the study area: Zmiiv district, near Lyman lake, leg. Lavrenko (Bordzilovskyi & Lavrenko, 1940) grows near the study area: Zmiiv district, near Lyman lake (Lavrenko, 1973) grows near the study area: Zmiiv district, near Lyman lake, leg. Lavrenko (Bordzilovskyi & Lavrenko, 1940)
49	<i>Carex colchica</i> J. Gay	native	Izyum State Forestry (Kotov, 1965)
50	<i>Carex diandra</i> Schrank <i>Carex diluta</i> M. Bieb.	native	Andriyivka (Bordzilovskyi & Lavrenko, 1940); near Andriyivka – Sukhyi Lyman (Lavrenko, 1973) grows near the study area: Zmiiv district, near Lyman lake (Lavrenko, 1973)
51	<i>Carex disticha</i> Huds.	native	Andriyivka – W, Sukhyi Lyman (Lavrenko, 1927); Andriyivka (Bordzilovskyi & Lavrenko, 1940)
52	<i>Carex elata</i> All. subsp. <i>omskiana</i> (Meinsh.) Jalas	native	near Andriyivka – Sukhyi Lyman, sub <i>Carex stricta</i> (Lavrenko, 1927, 1973)
53	<i>Carex elongata</i> L.	native	Kreydyanska Dacha, 2016, KWHA !!
54	<i>Carex ericetorum</i> Pollich	native	Kreydyanska Dacha, 2016, KWHA !!
55	<i>Carex hirta</i> L.	native	!!
56	<i>Carex lasiocarpa</i> Ehrh. <i>Carex limosa</i> L.	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1927, 1973) grows near the study area: Zmiiv district, near Lyman lake, leg. Lavrenko (Bordzilovskyi & Lavrenko, 1940)
57	<i>Carex melanostachya</i> M. Bieb. ex Willd.	native	Balakliya – in the valleys, 2016, KWHA !!; Bayrak, KWHA !!; Petrivske – in the Siverskyi Donets valley !!
58	<i>Carex michelii</i> Host	native	between Milova and Pyatyhirske, 2016, KWHA !!
59	<i>Carex nigra</i> (L.) Reichard	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1973)
60	<i>Carex praecox</i> Schreb.	native	!!
61	<i>Carex pseudocyperus</i> L.	native	Donets – in Zymnye lake, 09.06.2012 (Kazarinova, 2015)
62	<i>Carex riparia</i> Curtis	native	Balakliya – E, 2016, KWHA !!

## Appendix. Continued.

Nr	Taxon	Category	Distribution
63	<i>Carex rostrata</i> Stokes	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1973) (sub <i>C. inflata</i> Huds)
64	<i>Carex secalina</i> Willd. ex Wahlenb. <i>Carex stenophylla</i> Wahlenb. subsp. <i>stenophylla</i> ( <i>Carex uralensis</i> C.B. Clarke)	native	valley of the river Middle Balakliyka, 1978, leg. Chorna (Vinichenko, 2007) grows near the study area: Zmiiv district, near Lyman lake, leg. Lavrenko (Bordzilovskiy & Lavrenko, 1940)
65	<i>Carex supina</i> Willd. ex Wahlenb.	native	Kreydyanska Dacha, 2016, KWHA !!
66	<i>Carex vesicaria</i> L.	native	Kreydyanska Dacha, 2016, KWHA !!
67	<i>Carex vulpina</i> L.	native	!!
68	<i>Cyperus fuscus</i> L.	native	Savyntsi – in Siverskyi Donets, 03.08.2011 (Kazarinova, 2015)
69	<i>Cyperus glomeratus</i> L. <i>Cyperus pannonicus</i> Jacq.	native	Chepil (Bordzilovskiy & Lavrenko, 1940); Savyntsi – in Siverskyi Donets, 03.08.2011 (Kazarinova, 2015) grows near the study area: Zmiiv district, near Lyman lake, leg. Lavrenko (Bordzilovskiy & Lavrenko, 1940)
70	<i>Eleocharis palustris</i> (L.) Roem. & Schult. <i>Eleocharis uniglumis</i> (Link) Schult. ( <i>Eleocharis scythica</i> Zinserl.)	native	Savyntsi – in Siverskyi Donets, 03.06.1980 (Dubyna, 2006); Petrivske – an arm of Siverskyi Donets, 07.08.1980 (Dubyna, 2006); Protopopivka – NW, 2016, KWHA !! grows near the study area: Zmiiv district, near Lyman lake, leg. Lavrenko (Bordzilovskiy & Lavrenko, 1940)
71	<i>Eriophorum angustifolium</i> Honck.	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1973)
72	<i>Eriophorum gracile</i> W.D.J. Koch	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1927, 1973)
73	<i>Scirpoides holoschoenus</i> (L.) Sojak	native	Balakliya – W, 2016, KWHA !!; Bayrak – N, KWHA !!
74	<i>Scirpus lacustris</i> (L.) Palla <i>Scirpus radicans</i> Schkuhr	native	Andriyivka – W, Sukhyi Lyman (Lavrenko, 1927); Savyntsi – in Siverskyi Donets, 03.11.1980 (Dubyna, 2006); Donets – in Zymnye lake, 09.06.2012 (Kazarinova, 2015); Balakliya, KWHA !! grows near the study area: Zmiiv district, near Lyman, leg. Lavrenko (Bordzilovskiy & Lavrenko, 1940)
75	<i>Scirpus tabernaemontani</i> (C.C. Gmel.) Palla	native	Petrivske – an arm of Siverskyi Donets, 07.08.1980 (Dubyna, 2006); Bayrak – in the Siverskyi Donets floodplain, 2016, KWHA !!
<b>Hydrocharitaceae</b>			
76	<i>Elodea canadensis</i> Michx.	alien	Balakliya – in Balakliyka, 25.08.1979 (Dubyna, 2006); Andriyivka – in Siverskyi Donets, 03.06.1980 (Dubyna, 2006)
77	<i>Hydrocharis morsus-ranae</i> L. <i>Najas flexilis</i> (Willd.) Rostk. & W.L.E. Schmidt ( <i>Caulinia flexilis</i> Willd.)	native n.conf.	near Andriyivka – Sukhyi Lyman (Lavrenko, 1973); Petrivske – an arm of Siverskyi Donets, 07.08.1980 (Dubyna, 2006); Donets (settlement) – in Siverskyi Donets, 17.09.2011 (Kazarinova, 2015); Andriyivka – S, in Siverskyi Donets, 2016, KWHA !!; Donets – in Zymnye lake, 09.06.2012 (Kazarinova, 2015); Izyum State Forestry, Dovge lake, [49.1877°, 36.9421°], 07.1907 (Savenkov, 1910) it is included to the list of rare species of Siverskyi Donets basin (Marushchak et al., 2018) – probably wrongly reported



Appendix. Continued.

Nr	Taxon	Category	Distribution
78	<i>Najas marina</i> L.	native	Andriyivka – in Siverskyi Donets, 03.06.1980 (Dubyna, 2006); Andriyivka – W, Lyman lake, 23.06.2012 (Kazarinova, 2015); Donets (settlement) – in Siverskyi Donets, 17.09.2011 (Kazarinova, 2015)
79	<i>Najas minor</i> All.	native	Vitrivka – in Siverskyi Donets (Savenkov, 1910); Chopil – in Siverskyi Donets, 1910, leg. Savenkov, KW (Chernaya, 1982); Protopopivka and Petrivske – in Siverskyi Donets (Chernaya, 1982); Izyum State Forestry, Ploske lake, [49.2862°, 36.9557°], 23.07.1907 (Savenkov, 1910)
80	<i>Stratiotes aloides</i> L.	native	Izyum State Forestry, Rudnivske lake (Savenkov, 1910)
81	<i>Vallisneria spiralis</i> L.	native	Andriyivka – W, Lyman, 23.06.2012 (Kazarinova, 2015)
<b>Iridaceae</b>			
82	<i>Gladiolus imbricatus</i> L.	native	between Balakliya and Bayrak – on the meadow in the Siverskyi Donets valley, numerous, 07.1978 (Gorelova et al., 1981); Bayrak – NW 0.5 km, on the meadow, 31.05.2016, KWHA !!; Bayrak – E, at the edge of the grove, 31.05.2016, KWHA !!
83	<i>Iris arenaria</i> Waldst. & Kit. ( <i>Iris pineticola</i> Klokov)	native	Balakliya – W, sandy steppe, 2016, KWHA !!; Balakliya – SW, quarter Nr 29 of Kreydyanska Dacha, 2016, KWHA !!; Landscape Park Izyumska Luka (Onyshchenko et al., 2016)
	<i>Iris halophila</i> Pall.	cult.	sometimes in flower beds !!; possibly in the study area occurs as indigenous
84	<i>Iris pseudacorus</i> L.	native	!!
85	<i>Iris pumila</i> L.	native	Borshchivka – S 2.5 km, in the gully, 30.03.2016 !!
<b>Juncaceae</b>			
86	<i>Juncus articulatus</i> L.	native	Balakliya – E, in Voloska Balakliyka valley, 2016, KWHA !!; Andriyivka – S, pine terrace of Siverskyi Donets !!
87	<i>Juncus atratus</i> Krock.	native	Balakliya – E, in the Voloska Balakliyka valley, 2016, KWHA !!
88	<i>Juncus bufonius</i> L.	native	Andriyivka – S, Borysoglibskyi Bir, 2016, KWHA !!
89	<i>Juncus compressus</i> Jacq.	native	Balakliya, 2016, KWHA !!
90	<i>Juncus conglomeratus</i> L.	native	!!
91	<i>Juncus effusus</i> L.	native	Balakliya – W, KWHA !!; Bayrak – in the Siverskyi Donets valley, 2016, KWHA !!
92	<i>Juncus gerardi</i> Loisel.	native	Andriyivka – S, in the Siverskyi Donets valley !!
93	<i>Juncus inflexus</i> L.	native	Balakliya – in the Voloska Balakliyka valley !!
94	<i>Luzula pallescens</i> Sw. ( <i>Luzula pallidula</i> Kirschner)	native	quarter Nr 29 of Kreydyanska Dacha, 2016, KWHA !!
<b>Juncaginaceae</b>			
	<i>Triglochin maritima</i> L.		grows near the study area: Zmiiv district, near Lyman lake (Lavrenko, 1973)
95	<i>Triglochin palustris</i> L.	native	Borshchivka – N, 2016, KWHA !!
<b>Liliaceae</b>			
96	<i>Fritillaria meleagroides</i> Patrin ex Schult. & Schult. f.	native	Shebelynka village, 1926, KW (Didenko, 2007); Balakliya – W, sandy steppe, 2016, KWHA !!; between Balakliya and Bayrak – in the Siverskyi Donets valley, 07.1978 (Gorelova et al., 1981); Bayrak – NW 0.6 km, in the Siverskyi Donets floodplain, 2016, KWHA !!
97	<i>Fritillaria ruthenica</i> Wikstr.	native	Shebelynka, 1940, leg. Osadcha, KW (Didenko, 2007); near Shchurivka village – N 49° 24.361' E 36° 55.553' (Borsukevych, 2018)

## Appendix. Continued.

Nr	Taxon	Category	Distribution
98	<i>Gagea bulbifera</i> (Pall.) Salisb.	native	Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!
99	<i>Gagea fragifera</i> (Vill.) E. Bayer & G. López ( <i>Gagea erubescens</i> (Besser) Schult. & Schult. f.)	native	between Protopopivka and Chepil – bank of Siverskyi Donets, abundantly, KWHA !!; Kreydyanska Dacha !!
100	<i>Gagea lutea</i> (L.) Ker Gawl.	native	!!
101	<i>Gagea minima</i> (L.) Ker Gawl.	native	!!
102	<i>Gagea pusilla</i> (F.W. Schmidt) Schult. & Schult. f.	native	Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!; Borshchivka – E, in the forest belt !!
103	<i>Tulipa sylvestris</i> (L.) subsp. <i>australis</i> (Link) Pamp. ( <i>Tulipa quercetorum</i> Klokov & Zoz)	native	Bayrak – E, deciduous forests !!; Bayrak – N, grove in the Siverskyi Donets valley, KWHA !!; Balakliya – grove in the Lyakhova valley, numerous, 2016, KWHA !!; between Balakliya and Bayrak – grove in the Siverskyi Donets valley !!
<b>Orchidaceae</b>			
104	<i>Anacamptis palustris</i> (Jacq.) R.M. Bateman, Pridgeon & M.W. Chase ( <i>Orchis palustris</i> Jacq.)	native	between Balakliya and Bayrak – grove in the Siverskyi Donets valley, numerous, 07.1978 (Gorelova et al., 1981); protected area Luhovyi near Balakliya (Alekhin, 2009)
105	<i>Epipactis helleborine</i> (L.) Crantz <i>Liparis loeselii</i> (L.) Rich.	native n.conf.	Protopopivka – N, grove near Kreydyana Hora, 2016, KWHA !! Landscape Park Izyumska Luka (Onyshchenko et al., 2016)
<b>Poaceae</b>			
106	<i>Aegilops cylindrica</i> Host	alien	Bayrak, KWHA !!
107	<i>Agropyron cristatum</i> (L.) Gaertn. ( <i>Agropyron pectinatum</i> (M. Bieb.) P. Beauv.)	native	Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!; Kreydyanska Dacha !!; Borysoglibskyi Bir !!; Milova – SW !!; Balakliya – SW, sandy meadow near Lyakhova !!; Balakliya – W, sandy steppe near the micro-district Druzha !!; Protopopivka – N, Kreydyana Hora !!; Petrivske – SE, pine terrace of Siverskyi Donets !!
108	<i>Agrostis capillaris</i> L.	native	Andriyivka – S, valley of Siverskyi Donets !!
109	<i>Agrostis gigantea</i> Roth.	native	!!
110	<i>Agrostis stolonifera</i> L.	native	!!
111	<i>Agrostis vinealis</i> Schreb.	native	shown on the map (Prokudin et al., 1977)
112	<i>Alopecurus aequalis</i> Sobol.	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1973)
113	<i>Alopecurus geniculatus</i> L.	native	Savyntsi – in Siverskyi Donets, 03.08.2011 (Kazarinova, 2015)
114	<i>Alopecurus pratensis</i> L.	native	Kreydyanska Dacha, 2016, KWHA !!; Bayrak – a meadow in the Siverskyi Donets valley, KWHA !!; etc.
115	<i>Arrhenatherum elatius</i> (L.) J. Presl & C. Presl.	alien	!!
116	<i>Avena fatua</i> L.	alien	!!
117	<i>Beckmannia eruciformis</i> (L.) Host	native	shown on the map (Prokudin et al., 1977)
118	<i>Bothriochloa ischaemum</i> (L.) Keng	native	on the cretaceous-steppe slopes in Siverskyi Donets valley !!; protected area Protopopivskyi near Protopopivka (Filatova et al., 2016)
119	<i>Brachypodium sylvaticum</i> (Huds.) P. Beauv	native	!!
120	<i>Bromopsis inermis</i> Leyss.	native	Balakliya – N, 2016, KWHA !!; Milova, 2016, KWHA !!; Bayrak – W, Khomyi ravine, 2016, KWHA !!
121	<i>Bromus arvensis</i> L.	alien	!!



Checklist of the flora of the vicinity of Balakliya (Kharkiv region, Ukraine)

Appendix. Continued.

Nr	Taxon	Category	Distribution
122	<i>Bromus commutatus</i> Schrad.	alien	near the river Balakliyka (Bordzilovskiy & Lavrenko, 1940); Balakliya – S, 2016, KWHA !!
123	<i>Bromus japonicus</i> Houtt.	alien	shown on the map (Prokudin et al., 1977)
124	<i>Bromus riparius</i> Rehmman	native	Borschivka – S, in the gully, KWHA !!; Borshchivka – N, 2016, KWHA !!; Bayrak – W, Khomyn ravine, 2016, KWHA !!
125	<i>Bromus squarrosus</i> L.	alien	Balakliya – N, KWHA !!; Bayrak – meadow in the Siverskyi Donets valley, 2016, KWHA !!
126	<i>Bromus tectorum</i> L. ( <i>Anisantha tectorum</i> (L.) Nevski)	alien	Milova, 2016, KWHA !!
127	<i>Calamagrostis canescens</i> (Weber) Roth	native	Balakliya – W, 2016, KWHA !!; Kreydyanska Dacha !!; Sezonna station – S, Borysoglibskiy Bir !!; Borshchivka – S 2.5 km, in the gully !!
128	<i>Calamagrostis epigejos</i> (L.) Roth	native	Kreydyanska Dacha, 2016, KWHA !!
129	<i>Catabrosa aquatica</i> (L.) P. Beauv	native	!!
130	<i>Dactylis glomerata</i> L.	native	!!
131	<i>Digitaria ischaemum</i> (Schreb.) Muhl.	alien	!!
132	<i>Digitaria sanguinalis</i> (L.) Scop.	alien	!!
133	<i>Echinochloa crusgalli</i> (L.) P. Beauv	alien	!!
134	<i>Elymus caninus</i> (L.) L.	native	Borysoglibskiy Bir, 2016, KWHA !!
135	<i>Elytrigia intermedia</i> (Host) Nevski	native	Balakliya – W, 2016, KWHA !!; Milova – SW, 2016, KWHA !!; Borshchivka – S 2.5 km, in the gully !!
136	<i>Elytrigia repens</i> (L.) Nevski	native	!!
137	<i>Elytrigia</i> × <i>tesquicola</i> Prokudin	native	Andriyivka (Bordzilovskiy & Lavrenko, 1940)
138	<i>Eragrostis rivalis</i> H. Scholz ( <i>Eragrostis aegyptiaca</i> auct. fl. ucr. non (Willd.) Delile)	native	Vitrivka – on the Siverskyi Donets bank (Shiryayev, 1913; Bordzilovskiy & Lavrenko, 1940); Chepil – on the Siverskyi Donets bank (Shiryayev, 1913; Bordzilovskiy & Lavrenko, 1940)
139	<i>Eragrostis minor</i> Host	alien	!!
140	<i>Festuca arundinacea</i> Schreb. subsp. <i>orientalis</i> Tzvelev	native	!!
141	<i>Festuca beckeri</i> (Hack.) Trautv.	native	often on the pine terrace of Siverskyi Donets !!
142	<i>Festuca gigantea</i> (L.) Vill.	native	shown on the map (Prokudin et al., 1977); !!
143	<i>Festuca rubra</i> L.	native	shown on the map (Prokudin et al., 1977)
144	<i>Festuca rupicola</i> Heuff.	native	!!
145	<i>Festuca valesiaca</i> Schleich. ex Gaudin	native	Milova – SW, 2016, KWHA !!; Petrivske – S, pine forest, 2016, KWHA !! Milova (Taliev, 1904); etc. !!
146	<i>Glyceria maxima</i> (C. Hartm.) Holmberg	native	along the banks of Siverskyi Donets and its tributaries
147	<i>Hordeum murinum</i> L. s.l.	alien	!!
148	<i>Koeleria delavignei</i> Czern. ex Domin	native	Andriyivka (Bordzilovskiy & Lavrenko, 1940)
149	<i>Koeleria glauca</i> (Spreng.) DC. ( <i>Koeleria sabuletorum</i> (Domin) Klokov)	native	between Andriyivka and Balakliya – Borysoglibskiy Bir !!; Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!; Petrivske – SE, pine plantation !!; Kreydyanska Dacha !!

## Appendix. Continued.

Nr	Taxon	Category	Distribution
150	<i>Koeleria pyramidata</i> (Lam.) P. Beauv. ( <i>Koeleria cristata</i> Pers.)	native	Bayrak – W 4 km, Khomyn ravine !!; Milova – SW, chalky slopes !!; Protopopivka – N, Kreydyana Hora !!
151	<i>Leersia oryzoides</i> (L.) Sw.	native	shown on the map (Prokudin et al., 1977)
152	<i>Leymus racemosus</i> (Lam.) Tzvelev ( <i>Elymus giganteus</i> Vahl.)	native	Andriyivka – sandy terrace of Siverskyi Donets, 1855, leg. Messarozh in herb. Chernyaev (Lavrenko, 1931; Bordzilovskiy & Lavrenko, 1940)
153	<i>Lolium perenne</i> L.	native	!!
154	<i>Lolium pratense</i> (Huds.) Darbysh. ( <i>Festuca pratensis</i> Huds.)	native	Bayrak – ZW, a meadow in the Siverskyi Donets valley, 2016, KWHHA !!
155	<i>Melica altissima</i> L.	native	Balakliya – S., near the road, 2016, KWHHA !!; Balakliya – SW, quarter Nr 5 of Kreydyanska Dacha; Protopopivka !!
156	<i>Melica nutans</i> L.	native	Balakliya – S, pine forest, 2016, KWHHA !!; Bayrak – E, in the oak forest !!; Pyatyhirske – SE, gully grove !!; Protopopivka – N, grove in the valley !!
157	<i>Melica transsilvanica</i> Schur	native	Kreydyanska Dacha, 2016, KWHHA !!; Milova – SW, 2016, KWHHA !!; Bayrak – W, Khomyn ravine, 2016, KWHHA !!; Borshchivka – NW, Voloska Balakliyka valley !!; Verbivka village – E !!; Protopopivka – N and NW, chalky slopes !!
158	<i>Milium effusum</i> L. <i>Molinia caerulea</i> (L.) Moench	native	Balakliya – in the Lyakhova valley !! grows near the study area: Zmiiv district, near Lyman, leg. Chernyayev & leg. Lavrenko (Bordzilovskiy & Lavrenko, 1940)
159	<i>Panicum miliaceum</i> L.	alien	!!
160	<i>Phalaris arundinacea</i> L.	native	Petrivske – an arm of Siverskyi Donets, 08.08.1980 (Dubyna, 2006)
161	<i>Phleum phleoides</i> (L.) H. Karst.	native	Milova – SW, 2016, KWHHA !!; Borysoglibskiy Bir – near Lebyazhe lakes !!; Borshchivka – NW, in the Voloska Balakliyka valley !!
162	<i>Phleum pratense</i> L.	native	Andriyivka, 2016, KWHHA !!; Balakliya – in the Srednya Balakliyka valley, 2016, KWHHA !!; Borysoglibskiy Bir – valley of Siverskyi Donets !!
163	<i>Phragmites australis</i> (Cav.) Trin. ex Steud.	native	!!
164	<i>Poa angustifolia</i> L.	native	!!
165	<i>Poa annua</i> L.	native	!!
166	<i>Poa bulbosa</i> L.	native	Chepil – in Siverskyi Donets valley (Shiryayev, 1913; Bordzilovskiy & Lavrenko, 1940)
167	<i>Poa compressa</i> L.	native	Balakliya – W, sandy steppe, KWHHA !!; Balakliya !!; Milova – SW, dumps of the chalk quarry, KWHHA !!
168	<i>Poa nemoralis</i> L.	native	!!
169	<i>Poa palustris</i> L.	native	Borysoglibskiy Bir, 2016, KWHHA !!; Protopopivka !!
170	<i>Poa pratensis</i> L.	native	!!
171	<i>Poa trivialis</i> L.	native	!!
172	<i>Pseudoroegneria stipifolia</i> (Trautv.) Á. Löve ( <i>Elytrigia</i> <i>stipifolia</i> (Trautv.) Nevski)	native	Andriyivka township, 19.06.1858, leg. Messarozh (Bordzilovskiy & Lavrenko, 1940; Dubovik, 1977)
173	<i>Puccinellia convoluta</i> (Hornem.) Fourr. ( <i>Puccinellia</i> <i>bilykiana</i> Klokov)	native	shown on the map (Prokudin et al., 1977)
174	<i>Puccinellia distans</i> (Jacq.) Parl.	native	shown on the map (Prokudin et al., 1977)



## Appendix. Continued.

Nr	Taxon	Category	Distribution
	<i>Puccinellia gigantea</i> (Grossh.) Grossh. ( <i>Puccinellia palustris</i> auct. non (Seenus) Grossh.)		grows near the study area: Zmiiv district, near Lyman lake, leg. Lavrenko (Bordzilovskiy & Lavrenko, 1940)
175	<i>Sclerochloa dura</i> (L.) P. Beauv	alien	!!
176	<i>Scolochloa festucacea</i> (Willd.) Link	native	Andriyivka, 26.06.1920, leg. Lavrenko (Chorna, 2006)
177	<i>Secale sylvestre</i> Host	native	Kreydyanska Dacha, 2016, KWHA !!; Petrivske – SE, pine forest !!
178	<i>Setaria glauca</i> (L.) P. Beauv	alien	!!
179	<i>Setaria verticillata</i> (L.) P. Beauv	alien	!!
180	<i>Setaria viridis</i> (L.) P. Beauv	alien	!!
181	<i>Sporobolus alopecuroides</i> (Piller & Mitterp.) Peterson ( <i>Crypsis alopecuroides</i> (Piller & Mitterp.) Schrad.)	native	Vitrivka (Bordzilovskiy & Lavrenko, 1940); Chepil (Bordzilovskiy & Lavrenko, 1940)
182	<i>Stipa borysthena</i> Klokov ex Prokudin	native	between Balakliya and Andriyivka – quarters Nrs 46, 57 and 65 of Borysoglibskiy Bir, 2016, KWHA !!
183	<i>Stipa capillata</i> L.	native	Dovgalivka village, CWU (Bezrodnova, 2015); Balakliya – W, quarter Nr 128 of Borysoglibskiy Bir, 2016, KWHA !!; Balakliya – E, 2016, KWHA !!; Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!; between Milova and Hlazunivka – chalky slopes, 2016, KWHA !!; Protopopivka – NW, in the gully, 2016, KWHA !!; Protopopivka – high bank of Siverskyi Donets !!; protected area Protopopivskiy near Protopopivka (Filatova et al., 2016); Borshchivka – NW, high bank of Voloska Balakliyka !!
184	<i>Stipa lessingiana</i> Trin. & Rupr.	native	Hlazunivka – NE, on slopes, 2016, KWHA !!; Borschivka – S, in the gully, 2016, KWHA !!; Bayrak – W 4 km, Khomyn ravine, 2016, KWHA !!; Milova – SW, chalky slopes !!; protected area Protopopivskiy near Protopopivka (Filatova et al., 2016)
185	<i>Stipa pennata</i> L.	native	Hlazunivka – NE, 2016, KWHA !!; Borshchivka – S, in the gully, 2016, KWHA !!; Protopopivka – NW, chalky slopes, 2016, KWHA !!
<b>Potamogetonaceae</b>			
186	<i>Potamogeton berchtoldii</i> Fieber.	native	Izyum State Forestry, Ploske lake, [49.2862°, 36.9557°], sub <i>P. pusillus</i> non L., 23.07.1907 (Savenkov, 1910); Andriyivka – in Siverskyi Donets, 03.06.1980 (Dubyna, 2006); Balakliya – Siverskyi Donets, 03.06.1980 (Dubyna, 2006); Petrivske – an arm of Siverskyi Donets, 08.07.1986 (Dubyna, 2006); near Shchaslyve of Izyum district – in Siverskyi Donets (Dubyna & Chorna, 1984)
187	<i>Potamogeton compressus</i> L.	native	near Shchaslyve of the Izyum district – in Siverskyi Donets (Dubyna & Chorna, 1984)
188	<i>Potamogeton crispus</i> L.	native	!!
189	<i>Potamogeton friesii</i> Rupr.	native	near Shchaslyve of the Izyum district – in Siverskyi Donets (Dubyna & Chorna, 1984)
190	<i>Potamogeton lucens</i> L.	native	Vitrivka – in Siverskyi Donets (Savenkov, 1910); Petrivske – an arm of Siverskyi Donets, 08.07.1986 (Dubyna, 2006); Balakliya – W, in Siverskyi Donets !!; near Shchaslyve village of the Izyum district – in Siverskyi Donets (Dubyna & Chorna, 1984)
191	<i>Potamogeton natans</i> L.	native	Andriyivka – in Siverskyi Donets, 03.06.1980 (Dubyna, 2006); Savyntsi – in Siverskyi Donets, 07.08.1980 (Dubyna, 2006); Balakliya – W, in Siverskyi Donets !!

## Appendix. Continued.

Nr	Taxon	Category	Distribution
192	<i>Potamogeton nodosus</i> Poir.	native	near Shchaslyve of Iziium district – in Siverskyi Donets (Dubyna & Chorna, 1984)
193	<i>Potamogeton obtusifolius</i> Mert. & W.D.J. Koch	native	near Shchaslyve of Iziium district – in Siverskyi Donets (Dubyna & Chorna, 1984)
194	<i>Potamogeton pectinatus</i> L.	native	Petrivske – an arm of Siverskyi Donets, 07.08.1980 (Dubyna, 2006); Andriyivka – W, Lyman lake, 23.06.2012 (Kazarinova, 2015); Donets – in Zymnye lake, 09.06.2012 (Kazarinova, 2015); Savyntsi – in Siverskyi Donets, 03.08.2011 (Kazarinova, 2015)
195	<i>Potamogeton perfoliatus</i> L.	native	Balakliya – Siverskyi Donets, 03.06.1980 (Dubyna, 2006); Petrivske – an arm of Siverskyi Donets, 08.07.1986 (Dubyna, 2006); Andriyivka – W, Lyman lake, 23.06.2012 (Kazarinova, 2015)
196	<i>Potamogeton trichoides</i> Cham. & Schltdl.	native	Andriyivka – W, Lyman lake, 23.06.2012 (Kazarinova, 2015)
197	<i>Zannichellia palustris</i> L.	native	Izyum State Forestry, Ploske and Rogozuvate lakes (Savenkov, 1910)
<b>Sparganiaceae</b>			
198	<i>Sparganium erectum</i> L. subsp. <i>erectum</i>	native	!!
199	<i>Sparganium erectum</i> subsp. <i>neglectum</i> (Beeby) K. Richt	native	Balakliya – Siverskyi Donets, 03.06.1980 (Dubyna, 2006)
<b>Typhaceae</b>			
200	<i>Typha angustifolia</i> L.	native	!!
201	<i>Typha latifolia</i> L.	native	!!
202	<i>Typha laxmannii</i> Lepech.	alien	near Balakliya – 4–5 km, salt marsh on the left bank of Voloska Balakliyka, 14.10.1974, leg. Tzvelev (Krasnova, 2011); Protopopivka – NW, in the gully, 2016, KWHA !!; Balakliya – W, in the micro-district Druzhba !!; near Lyakhove lake !!
ANGIOSPERMS – EUDICOTS			
<b>Aceraceae</b>			
203	<i>Acer campestre</i> L.	native	!!
204	<i>Acer negundo</i> L.	alien	!!
205	<i>Acer platanoides</i> L.	native	!!
206	<i>Acer saccharinum</i> L.	alien	Balakliya – propagated by seeds near the park !!
207	<i>Acer tataricum</i> L.	native	Kreydyanska Dacha !!; Bayrak – W, on the banks of Siverskyi Donets !!; Bayrak – E, in the oak forest !!; Borshchivka – NW, plantations in the Voloska Balakliyka valley !!; Protopopivka – N, in Siverskyi Donets valley !!; Balakliya – W, groves on the sandy area !!
<b>Amaranthaceae</b>			
208	<i>Amaranthus albus</i> L.	alien	Balakliya – N part, along the roads and railways, 2016, KWHA !!
209	<i>Amaranthus blitoides</i> S. Watson	alien	!!
210	<i>Amaranthus caudatus</i> L.	alien	occasionally in the wild outside the plantations
211	<i>Amaranthus powellii</i> S. Watson	alien	!!
212	<i>Amaranthus retroflexus</i> L.	alien	!!
213	<i>Atriplex micrantha</i> Ledeb.	alien	Zavgorodnye – N, on the banks of Siverskyi Donets, 2016, KWHA !!
214	<i>Atriplex oblongifolia</i> Waldst. & Kit.	native	!!



Checklist of the flora of the vicinity of Balakliya (Kharkiv region, Ukraine)

Appendix. Continued.

Nr	Taxon	Category	Distribution
215	<i>Atriplex patula</i> L.	native	!!
216	<i>Atriplex prostrata</i> Boucher ex DC. subsp. <i>latifolia</i> (Wahlenb.) Rauschert	native	!!
217	<i>Atriplex sagittata</i> Borkh.	alien	!!
218	<i>Atriplex tatarica</i> L.	alien	!!
	<i>Camphorosma songorica</i> Bunge		grows near the study area: Zmiiv district, near Lyman lake (Lavrenko, 1973)
219	<i>Chenopodium album</i> L.	native	!!
220	<i>Chenopodium hybridum</i> (L.) S. Fuentes, Uotila & Borsch	native	!!
221	<i>Chenopodium opulifolium</i> Schrad. ex W.D.J. Koch & Ziz	alien	!!
222	<i>Chenopodium strictum</i> Roth	alien	!!
223	<i>Chenopodium suecicum</i> J. Murr	alien	!!
224	<i>Corispermum</i> × <i>czernjaevii</i> Klokov	native	Chepil – on the sandy banks of Siverskyi Donets, 15–16.09.1867, leg. Chernyaev (Klokov, 1960)
225	<i>Corispermum hyssopifolium</i> L.	native	Andriyivka – SE, on the sandy hill in the pine grove, 11.08.1956, leg. Tzvelev (Klokov, 1960)
226	<i>Corispermum marschallii</i> Steven	native	Chepil, 15–20.09.1867, leg. Chernyaev (Klokov, 1960)
227	<i>Grubovia sedoides</i> (Pall.) G.L. Chu ( <i>Bassia sedoides</i> (Pall.) Asch.)	native	Petrivske – S, on the sands !!
228	<i>Kochia laniflora</i> (S.G. Gmel.) A.J. Scott	native	Balakliya – W, sandy terrace of Siverskyi Donets, 2016, KWHA !!; Andriyivka – S, 2016, KWHA !!
229	<i>Kochia scoparia</i> (L.) Schrad. subsp. <i>scoparia</i>	alien	home gardens, as a weed !!
230	<i>Kochia scoparia</i> subsp. <i>densiflora</i> (Turcz. ex Moq.) Aellen	alien	Balakliya – W, sandy steppe, 2016, KWHA !!; Balakliya – along the railways !!
231	<i>Oxybasis glauca</i> (L.) S. Fuentes, Uotila & Borsch ( <i>Chenopodium glaucum</i> L.)	native	!!
232	<i>Oxybasis rubra</i> (L.) S. Fuentes, Uotila & Borsch ( <i>Chenopodium rubrum</i> L.)	alien	Protopopivka – N, at the bank of Siverskyi Donets !!
233	<i>Polycnemum majus</i> A. Braun ex Bogenh.	native	Milova – SW, 2016, KWHA !!
234	<i>Salsola tragus</i> L.	native	Kreydyanska Dacha !!; Balakliya – E part, along the roads and railways !!
	<i>Suaeda prostrata</i> Pall.		grows near the study area: Zmiiv district, near Lyman lake (Lavrenko, 1973)

## Appendix. Continued.

Nr	Taxon	Category	Distribution
<b>Anacardiaceae</b>			
235	<i>Cotinus coggygria</i> Scop.	native and alien	<i>native</i> : Protopopivka and Petrivske – on chalky outcrops; protected area Protopopivskiyi near Protopopivka (Filatova et al., 2016). The location of <i>C. coggygria</i> from the Balakliya district is a continuation of a large linear population on the cretaceous slopes in Siverskyi Donets valley, which was first delineated “between Izyum (Kharkiv region) and Kryva Luka (Donetsk region)” (Taliev, 1915). Some researchers (Litvinov, 1902) believe that this geographical population has a relic origin. However, there was an assumption that <i>C. coggygria</i> could be artificially planted near Svyatogorsky monastery (Donetsk region), from where this species spread in the valley of Siverskyi Donets (Taliev, 1902). <i>alien</i> : Borysoglibskiyi Bir – in the plantations and spontaneously !!; Bayrak – W, near Khomyn ravine, 2016, KWAH !!; Balakliya – NE, near the dachas in the plantations – became wild !!; Borshchivka – NW, in the plantations and wildly !!
<b>Apiaceae</b>			
236	<i>Aegopodium podagraria</i> L.	native	!!
237	<i>Aethusa cynapium</i> L.	alien	Izyum State Forestry (Kotov, 1965)
238	<i>Angelica archangelica</i> L.	native	!!
239	<i>Angelica sylvestris</i> L.	native	Balakliya – E, in the Voloska Balakliyka valley, 2016, KWAH !!; Sezonna station – S, Borysoglibskiyi Bir !!
240	<i>Anthriscus sylvestris</i> (L.) Hoffm.	native	!!
241	<i>Berula erecta</i> (Huds.) Cov.	native	!!
242	<i>Bupleurum falcatum</i> L.	native	Milova – SW, 2016, KWAH !!; Protopopivka – Kreydyana Hora, 2016, KWAH !!; Kreydyanska Dacha !!
243	<i>Chaerophyllum bulbosum</i> L.	native	between Balakliya and Andriyivka – Borysoglibskiyi Bir, 2016, KWAH !!; Kreydyanska Dacha !!; Pyatyhirske – SE, gully grove !!; Protopopivka !!; Balakliya – W, deciduous grove on the sandy area !!
244	<i>Chaerophyllum temulum</i> L.	native	Petrivske – S, on the banks of Siverskyi Donets, 2016, KWAH !!; etc.
245	<i>Cicuta virosa</i> L.	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1973)
246	<i>Conium maculatum</i> L.	alien	!!
247	<i>Coriandrum sativum</i> L.	alien	Balakliya !!
248	<i>Daucus carota</i> L.	native	!!
249	<i>Eryngium campestre</i> L.	native	quite often
250	<i>Eryngium planum</i> L.	native	Balakliya – SW, on the banks of Lyakhova !!; Balakliya – W, sandy steppe !!; Petrivske – SE, pine terrace of Siverskyi Donets !!
251	<i>Falcaria vulgaris</i> Bernh.	native	!!
252	<i>Heracleum sibiricum</i> L.	native	!!
253	<i>Oenanthe aquatica</i> (L.) Poir.	native	Savyntsi – in Siverskyi Donets, 03.06.1980 (Dubyna, 2006); near Andriyivka – Sukhyi Lyman (Lavrenko, 1973); Borshchivka – in Voloska Balakliyka, 2016, KWAH !!; Balakliya – SE, in the Voloska Balakliyka valley !!
254	<i>Ostericum palustre</i> (Besser) Besser ( <i>Angelica palustris</i> (Besser) Hoffm.)	native	Andriyivka – W, Sukhyi Lyman (Kazarinova, 2015)
255	<i>Pastinaca sativa</i> L. ( <i>Pastinaca sylvestris</i> Mill.)	native	Milova !!

Appendix. Continued.

Nr	Taxon	Category	Distribution
256	<i>Peucedanum alsaticum</i> L.	native	Balakliya – W, KWHA !!; Pyatyhirske – SE, 2016, KWHA !!
257	<i>Peucedanum oreoselinum</i> (L.) Moench	native	between Balakliya and Andriyivka – Borysoglibskyi Bir, 2016, KWHA !!; Milova – SW, 2016, KWHA !!; Kreydyanska Dacha !!; Borshchivka – S, pine plantation !!
258	<i>Pimpinella saxifraga</i> L. subsp. <i>saxifraga</i>	native	Zavgorodnye – on the banks of Siverskyi Donets, 2016, KWHA !! (requires further confirmation)
259	<i>Pimpinella saxifraga</i> subsp. <i>nigra</i> (Mill.) Gaudin ( <i>Pimpinella nigra</i> Mill.)	native	!!
260	<i>Pimpinella tragiium</i> Vill. subsp. <i>titanophila</i> (Woronow) Tutin ( <i>Pimpinella titanophila</i> Woronow)	native	Milova – W, chalky outcrops, 2016, KWHA !!
261	<i>Seseli annuum</i> L.	native	Balakliya – W, KWHA !!; Milova – SW, 2016, KWHA !!
262	<i>Seseli campestre</i> Besser	native	Balakliya, 2016, KWHA !!; etc.
263	<i>Seseli libanotis</i> (L.) W.D.J. Koch	native	between Andriyivka and Balakliya – Borysoglibskyi Bir, 2016, KWHA !!; Balakliya – slope of Balakliyska Hora !!; Kreydyanska Dacha !!; Petrivske – SE, pine terrace of Siverskyi Donets !!
264	<i>Silaum silaus</i> (L.) Schinz & Thell.	native	Balakliya – Balakliyska Hora, 2016, KWHA !! on the banks of Serednya Balakliyka, 2016, KWHA !!; Protopopivka – N !!; Petrivske – SE !!
265	<i>Sium latifolium</i> L.	native	Petrivske – an arm of Siverskyi Donets, 08.08.1980 (Dubyna, 2006); Donets – in Zymnye lake, 09.06.2012 (Kazarinova, 2015); Savyntsi – in Siverskyi Donets, 03.08.2011 (Kazarinova, 2015); Balakliya – W part, in the Serednya Balakliyka valley, 2016, KWHA !!
266	<i>Sium sisarum</i> L.	native	!!
267	<i>Taeniopetalum arenarium</i> (Waldst. & Kit.) V.N. Tikhom. subsp. <i>borysthenicum</i> (Klokov ex Schischk.) Pimenov & Ostr. ( <i>Peucedanum borysthenicum</i> Klokov ex Schischk.)	native	Izyum State Forestry (Kotov, 1965)
268	<i>Torilis japonica</i> (Houtt.) DC.	native	2016, KWHA !!
269	<i>Trinia multicaulis</i> (Poir.) Schischk.	native	Pryshyb village (Bordzilovskyi & Lavrenko, 1940), – controversial citation that may refer to the Donetsk region
<b>Apocynaceae</b>			
270	<i>Asclepias syriaca</i> L.	alien	between Balakliya and Andriyivka, a dry meadow near Lebyazhe lakes, 2016, KWHA !!; near Bayrak – on the fallow !!
271	<i>Vinca herbacea</i> Waldst. & Kit.	native	Milova – SW, 2016, KWHA !!
272	<i>Vincetoxicum hirundinaria</i> Medik. subsp. <i>hirundinaria</i>	native	Kreydyanska Dacha !!; Bayrak – W 4 km, Khomyn ravine !!
273	<i>Vincetoxicum hirundinaria</i> subsp. <i>cretaceum</i> (Probed.) Markgr. ( <i>Vincetoxicum cretaceum</i> (Pobed.) Wissjul.)	native	Balakliya (Kotov & Barbarych, 1957)
<b>Asteraceae</b>			
274	<i>Achillea inundata</i> Kondr.	native	Borshchivka, 2016, KWHA !!; Balakliya !!; Kreydyanska Dacha; Savyntsi (Visjulina, 1965)



## Appendix. Continued.

Nr	Taxon	Category	Distribution
275	<i>Achillea millefolium</i> L. subsp. <i>collina</i> (Wirtg.) Oborny ( <i>Achillea millefolium</i> auct. non L.)	native	Milova (Taliev, 1904); often in dry habitats !!
276	<i>Achillea nobilis</i> L.	native	Milova – W, chalky slopes, 2016, KWHA !!; Kreydyanska Dacha !!; Balakliya – N part !!
277	<i>Achillea pannonica</i> Scheele	native	Borshchivka – N, 2016, KWHA !!; etc.
278	<i>Achillea salicifolia</i> Besser ( <i>Ptarmica salicifolia</i> (Besser) Serge)	native	Andriyivka – S, meadow in the Siverskyi Donets valley, 2016, KWHA !!
279	<i>Achillea setacea</i> Waldst. & Kit.	native	Milova – SW, 2016, KWHA !!; Balakliya !!
280	<i>Ambrosia artemisiifolia</i> L.	alien	!!
281	<i>Anthemis cotula</i> L.	alien	!!
282	<i>Anthemis ruthenica</i> M. Bieb. <i>Arctium</i> × <i>ambiguum</i> Nyman	native nat.h.	Bayrak – Khomyn ravine, 2016, KWHA !! !!
283	<i>Arctium lappa</i> L.	native	!!
284	<i>Arctium minus</i> (Hill) Bernh.	native	Balakliya, 2016, KWHA !!
285	<i>Arctium tomentosum</i> Mill.	native	!!
286	<i>Artemisia abrotanum</i> L. ( <i>Artemisia elatior</i> Klokov)	native	Pryshyb ( <a href="#">Visjulina, 1962</a> ); Balakliya – in the valleys, 2016, KWHA !!; Protopopivka – valley of Siverskyi Donets !!
287	<i>Artemisia absinthium</i> L.	alien	!!
288	<i>Artemisia annua</i> L.	alien	!!
289	<i>Artemisia austriaca</i> Jacq.	native	!!
290	<i>Artemisia biennis</i> Willd. ( <i>Artemisia tournefortiana</i> Rchb.)	alien	Balakliya – near the estates, became wild, 2016, KWHA !!
291	<i>Artemisia marschalliana</i> Spreng. ( <i>Artemisia campestris</i> L.)	native	Milova – SW, 2016, KWHA !!; Kreydyanska Dacha !!; Sezonna station – S, Vysokobirske forestry !!; Protopopivka !!; Balakliya – W, sandy steppe !!; Petrivske – SE, pine terrace of Siverskyi Donets !!
292	<i>Artemisia pontica</i> L. <i>Artemisia santonicum</i> L. subsp. <i>santonicum</i> ( <i>Artemisia praticola</i> Klokov)	native	Uspenske village ( <a href="#">Visjulina, 1962</a> ) grows near the study area: Zmiiv district, near Lyman, leg. Lavrenko ( <a href="#">Visjulina, 1962</a> )
293	<i>Artemisia scoparia</i> Waldst. & Kit.	native	Zavgorodnye – on the banks of Siverskyi Donets, 2016, KWHA !!
294	<i>Artemisia vulgaris</i> L.	native	!!
295	<i>Aster amellus</i> L. subsp. <i>bessarabicus</i> (Bernh. ex Rchb.) Soó	native	near Shebelynka, 08.08.1976 ( <a href="#">Zoz, 1978</a> ); Milova – SW, on the slopes, 2016, KWHA !!; Borshchivka – S 2.5 km, in the gully !!
296	<i>Bidens cernua</i> L.	native	!!
297	<i>Bidens frondosa</i> L.	alien	!!
298	<i>Bidens tripartita</i> L.	native	!!
299	<i>Calendula officinalis</i> L.	alien	!!
300	<i>Callistephus chinensis</i> (L.) Nees	alien	!!

Checklist of the flora of the vicinity of Balakliya (Kharkiv region, Ukraine)

Appendix. Continued.

Nr	Taxon	Category	Distribution
301	<i>Carduus acanthoides</i> L.	alien	!!
302	<i>Carduus crispus</i> L.	native	Protopopivka – N, valley of Siverskyi Donets !!
303	<i>Carlina biebersteinii</i> Bernh. ex Hornem.	native	Milova – SW, chalk slopes !!; Borshchivka – S 2.5 km, in the gully !!
304	<i>Centaurea cyanus</i> L.	alien	Milova – SW, 2016, KWHA !!
305	<i>Centaurea diffusa</i> Lam.	alien	!!
306	<i>Centaurea jacea</i> L. subsp. <i>jacea</i>	native	Balakliya – W, 2016, KWHA !!; Borshchivka – S 2.5 km, in the gully !!; Kreydyanska Dacha !!; Bayrak – meadows in the Siverskyi Donets valley !!
307	<i>Centaurea jacea</i> subsp. <i>substituta</i> (Czerep.) Mikheev ( <i>Centaurea substituta</i> Czerep.)	native	Balakliya, 1925, leg. Pryanyshnykov, KW (Ilyinska et al., 2016)
308	<i>Centaurea majorovii</i> Dumbadze	native	Krynychne village (Visjulina, 1965); Savyntsi (Visjulina, 1965); Balakliya, 2016, KWHA !!; etc.
309	<i>Centaurea orientalis</i> L.	native	Milova – SW, 2016, KWHA !!
310	<i>Centaurea pannonica</i> (Heuff.) Hayek	native	near Shebelynka – on the chalky slopes in the ravine, 08.08.1976 (Zoz, 1978)
311	<i>Centaurea phrygia</i> L. subsp. <i>salicifolia</i> (M. Bieb. ex Willd.) Mikheev	native	without specified location (Gorelova & Alekhin, 2002) – doubtful indication; in Ukraine, this species is distributed exclusively on the Donetsk Ridge (Visjulina, 1965)
312	<i>Centaurea scabiosa</i> L. subsp. <i>adpressa</i> (Ledeb.) Gugler	native	Balakliya, 2016, KWHA !!; Kreydyanska Dacha !!; Bayrak – W 4 km, Khomyn ravine !!
313	<i>Centaurea scabiosa</i> subsp. <i>apiculata</i> (Ledeb.) Mikheev	native	!!
314	<i>Centaurea stoebe</i> L. subsp. <i>stoebe</i> (incl. <i>Centaurea pseudomaculosa</i> Dobroc.)	native	near Protopopivka – Kreydyana Hora, 2016, KWHA !! – and NW, in the gully !!
315	<i>Centaurea trichocephala</i> M. Bieb.	native	Andriyivka (Visjulina, 1965)
316	<i>Centaurea</i> × <i>varnensis</i> Velen.	alien	!!
317	<i>Chondrilla juncea</i> L. s. str.	native	Milova – SW, chalk slopes !!; Protopopivka – N, on the slopes above Siverskyi Donets !!
318	<i>Chondrilla latifolia</i> M. Bieb.	native	Balakliya, 2016, KWHA !!; etc.
319	<i>Cichorium intybus</i> L.	alien	!!
	<i>Cirsium alatum</i> (S. Gmel.) Bobrov ( <i>Cirsium elodes</i> auct. non M. Bieb.)		grows near the study area: Zmiiv district, near Lyman lake, leg. Lavrenko (Visjulina, 1962)
320	<i>Cirsium arvense</i> (L.) Scop.	native	!!
	<i>Cirsium arvense</i> var. <i>vestitum</i> Wimm. & Grab. ( <i>Cirsium incanum</i> (S.G. Gmel.) Fisch. ex M. Bieb.)	native	Milova – SW, 2016, KWHA !!
321	<i>Cirsium rivulare</i> (Jacq.) All.	native	Shevelivka village (Visjulina, 1962)
322	<i>Cirsium vulgare</i> (Savi) Ten.	native	!!
323	<i>Cota tinctoria</i> (L.) J. Gay	native	Milova – SW, 2016, KWHA !!; Protopopivka – N, Kreydyana Hora !!; Borshchivka – SE, in the gully !!

## Appendix. Continued.

Nr	Taxon	Category	Distribution
324	<i>Crepis biennis</i> L.	native	Kreydyanska Dacha, 2016, KWHA !!; Balakliya – N part, on the roadside !!
325	<i>Crepis foetida</i> L. subsp. <i>rhoeadifolia</i> (M. Bieb.) Celak.	native	!!
326	<i>Crepis paludosa</i> (L.) Moench	native	Shevelivka (Visjulina, 1965)
327	<i>Crepis pannonica</i> (Jacq.) K. Koch	native	Krynychne (Visjulina, 1965)
328	<i>Crepis tectorum</i> L.	native	!!
329	<i>Echinacea purpurea</i> (L.) Moench	alien	Balakliya !!
330	<i>Echinops ritro</i> L.	native	Protopopivka – N part !!; Petrivske – SE, valley of Siverskyi Donets !!
331	<i>Erigeron acris</i> L. subsp. <i>acris</i>	native	Balakliya – N part, 2016, KWHA !!
332	<i>Erigeron acris</i> subsp. <i>podolicus</i> (Besser) Nyman	native	Balakliya – W, quarter Nr 128 of the Vysokobirske forestry, 2016, KWHA !!
333	<i>Erigeron annuus</i> (L.) Pers. ( <i>Stenactis annua</i> Cass.)	alien	!!
334	<i>Erigeron canadensis</i> L. ( <i>Conyza canadensis</i> (L.) Cronquist)	alien	!!
335	<i>Eupatorium cannabinum</i> L.	native	in the valley from Hlazunivka to Milova !!
336	<i>Filago arvensis</i> L.	native	Balakliya – N, military base, 2016, KWHA !!
337	<i>Gaillardia pulchella</i> Foug.	alien	Balakliya – along railways !!
338	<i>Galatella sedifolia</i> (L.) Greuter subsp. <i>dracunculoides</i> (Lam.) Greuter ( <i>Galatella dracunculoides</i> Nees)	native	Balakliya – N, military base, 2016, KWHA !!; Milova – W, on the slope, 2016, KWHA !!; Pyatyhirske – SE, on the slopes !!; Protopopivka – N, the slope above Kreydyana Hora, abundantly !!
339	<i>Galatella tatarica</i> (Less.) Novopokr.	native	near Prishib, on Siverskyi Donets (Tzvelev, 1994), – controversial citation that may refer to the Donetsk region
340	<i>Galatella villosa</i> (L.) Rchb. f. <i>Gnaphalium rossicum</i> Kirp.	native	Borschivka – S 2.5 km, in the gully, 2016, KWHA !! grows near the study area: Zmiiv district, near Lyman, leg. Lavrenko (Visjulina, 1962)
341	<i>Grindelia squarrosa</i> (Pursh) Dunal	alien	Balakliya – N part, along the roads !!
342	<i>Helianthus annuus</i> L.	alien	!!
343	<i>Helichrysum arenarium</i> (L.) Moench <i>Helichrysum luteoalbum</i> (L.) Rchb. ( <i>Gnaphalium luteoalbum</i> L.)	native	near Protopopivka – chalky slopes, 2016, KWHA !!; Bayrak – W, Khomyn ravine !!; between Andriyivka and Balakliya – Borysoglibskyi Bir !!; Kreydyanska Dacha !!; Balakliya – W, sandy steppe !!; Petrivske – SE, pine terrace of Siverskyi Donets !! grows near the study area: Zmiiv district, near Lyman, leg. Kotov & Lavrenko (Visjulina, 1962)
344	<i>Heliopsis helianthoides</i> (L.) Sweet var. <i>scabra</i> (Dunal) Fernald	alien	!!
345	<i>Hieracium umbellatum</i> L.	native	Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!; Kreydyanska Dacha !!
346	<i>Hieracium virosum</i> Pall.	native	Kreydyanska Dacha !!; Milova – SW, meadow-steppe on the slope !!



Checklist of the flora of the vicinity of Balakliya (Kharkiv region, Ukraine)

Appendix. Continued.

Nr	Taxon	Category	Distribution
347	<i>Inula britannica</i> L.	native	Balakliya – W, 2016, KWHA !!; Petrivske – S, 2016, KWHA !!; etc.
348	<i>Inula germanica</i> L.	native	Petrivske – S, 2016, KWHA !!
349	<i>Inula helenium</i> L.	native	Borshchivka – S 2.5 km, in the gully !!; Balakliya – in the Serednya Balakliyka valley !!
350	<i>Inula hirta</i> L.	native	Milova – SW, meadow steppe on the northern slope, 2016, KWHA !!
351	<i>Inula salicina</i> L. subsp. <i>salicina</i>	native	Milova – SW, 2016, KWHA !!
352	<i>Inula salicina</i> subsp. <i>aspera</i> (Poir.) Hayek	native	Balakliya – slope of Balakliyska Hora, 2016, KWHA !!; Andriyivka – S, 2016, KWHA !!; Milova – SW, 2016, KWHA !!; Protopopivka – N, on the steppe slopes above Kreydyana Hora, 2016, KWHA !!
353	<i>Inula salicina</i> subsp. <i>sabuletorum</i> (Czern. ex Lavrenko) Soják	native	<i>locus classicus</i> : pr. Tshepelj, in arenosis, where <i>Salix rosmarinifolia</i> , 15 et 21.11.1867, leg. Czernjaev, Herb. Hort. bot. Charjov (Botschantzev, 1959); the same designation (“urochysche Chepil”), leg. Chernyayev (Visjulina, 1962); Chepil – S, at the foot of a high slope and Kreydyana Hora near the mouth of the river Chepil, abundantly, with intermediate signs of subsp. <i>aspera</i> !!
354	<i>Iva xanthiifolia</i> Nutt.	alien	!!
355	<i>Jacobaea borysthenica</i> (DC.) B. Nord. & Greuter <i>Jacobaea grandidentata</i> (Ledeb.) Vasjukov ( <i>Senecio grandidentatus</i> Ledeb.)	native	Izyum State Forestry (Kotov, 1965); grows near the study area: Zmiiv district, near Lyman lake, leg. Kotov & Lavrenko (Visjulina, 1962) grows near the study area: Zmiiv district, near Lyman lake, leg. Lavrenko (Visjulina, 1962)
356	<i>Jacobaea vulgaris</i> Gaertn. ( <i>Senecio jacobaea</i> L.)	native	!!
357	<i>Jurinea arachnoidea</i> Bunge	native	Borschivka – S, in the gully, 2016, KWHA !!; Bayrak – W 4 km, Khomyn ravine, 2016, KWHA !!; Milova – SW, chalk slopes !!
358	<i>Jurinea cyanoides</i> (L.) Rchb.	native	Balakliya – NE 4–5 km, steppe slope on the right bank of Voloska Balakliyka, 1972, leg. Tzvelev, LE (Vinichenko, 2007); between Andriyivka and Balakliya – Borysoglibskiy Bir !!; Kreydyanska Dacha, 2016, KWHA !!; Balakliya – W, sandy steppe !!; Petrivske – SE, in the pine forest !!
359	<i>Klasea lycopifolia</i> (Vill.) Á. Löve & D. Löve ( <i>Serratula lycopifolia</i> (Vill.) A. Kern.)	native	Milova – SW, meadow steppe on the northern slope, 2016, KWHA !!
360	<i>Lactuca muralis</i> (L.) E. Mey. ( <i>Mycelis muralis</i> (L.) Dumort.)	native	Balakliya – W part, in the Serednya Balakliyka valley !!; Balakliya – N part, in the park !!
361	<i>Lactuca quercina</i> L.	native	Pryshyb (Visjulina, 1965); Balakliya – E part, 2016, KWHA !!; near Bayrak – in the deciduous forest, 2016, KWHA !!; Pyatyhirske – SE, gully grove !!; Verbivka – E !!; Protopopivka – N, grove in the valley !!
362	<i>Lactuca saligna</i> L.	native	Balakliya – N, military base, 2016, KWHA !!; Petrivske – SE !!
363	<i>Lactuca serriola</i> L.	alien	!!
364	<i>Lactuca tatarica</i> (L.) C.A. Mey.	alien	!!
365	<i>Lapsana communis</i> L.	native	Kreydyanska Dacha !!; Pyatyhirske – SE, gully grove !!
366	<i>Leontodon autumnalis</i> L.	native	!!
367	<i>Leucanthemum vulgare</i> Lam.	native	!!
368	<i>Leuzea altaica</i> Link ( <i>Rhaponticum serratuloides</i> (Georgi) Bobrov)	native	Chepil (Visjulina, 1965); Balakliya – S, meadow in the Siverskyi Donets valley, near Tyshkove lake, 19.08.1959, I. Zoz (Zoz & Kultenko, 1977)

## Appendix. Continued.

Nr	Taxon	Category	Distribution
369	<i>Matricaria chamomilla</i> L. ( <i>Matricaria recutita</i> L.)	alien	!!
370	<i>Matricaria discoidea</i> DC. ( <i>Lepidotheca suaveolens</i> (Pursh) Nutt.)	alien	Milova !!; Protopopivka !!
371	<i>Onopordum acanthium</i> L.	alien	!!
372	<i>Petasites spurius</i> (Retz.) Rchb.	native	Zavgorodnye – N, on the banks of Siverskyi Donets, 2016, KWHA !!
373	<i>Picris hieracioides</i> L.	native	Balakliya, 2016, KWHA !!
374	<i>Pilosella cymosa</i> (L.) F. Schultz & Sch. Bip.	native	Hlazunivka ( <a href="#">Visjulina, 1965</a> ); Balakliya – western slope of Balakliyska Hora !!; Borshchivka – S, 2016, KWHA !!; Kreydyanska Dacha !!; Petrivske – SE, in the pine forest !!
375	<i>Pilosella echioides</i> (Lumn.) F. Schultz & Sch. Bip.	native	Balakliya – W, Borysoglibskyi Bir, 2016, KWHA !!; SW – Kreydyanska Dacha, 2016, KWHA !!; Borshchivka – S 2.5 km, in the gully !!; Balakliya – SW part, sandy meadow near Lyakhova !!; Petrivske – SE, in the pine forest !!
376	<i>Pilosella floribunda</i> (Wimmer & Grab.) Fr.	native	!!
377	<i>Pilosella officinarum</i> F. Schultz & Sch. Bip.  <i>Pilosella onegensis</i> Norrl.	native	!!  grows near the study area: Zmiiv district, near Lyman, leg. Lavrenko ( <a href="#">Visjulina, 1965</a> )
378	<i>Psephellus dealbatus</i> (Willd.) K. Koch	alien	Balakliya – occasionally in the dumps and abandoned flower beds !!
379	<i>Psephellus sumensis</i> (Kalen.) Greuter ( <i>Centaurea sumensis</i> Kalen.)	native	Kreydyanska Dacha and Borysoglibskyi Bir, 2016, KWHA !!; Milova – SW, chalky slopes, 2016, KWHA !!
380	<i>Pulicaria vulgaris</i> Gaertn.	native	!!
381	<i>Pyrethrum corymbosum</i> (L.) Scop.	native	Pyatyhirske – S, 2016, KWHA !!
382	<i>Scorzonera ensifolia</i> M. Bieb.	native	Andriyivka, 2016, KWHA !!; between Balakliya and Andriyivka – Borysoglibskyi Bir, 2016, KWHA !!
383	<i>Scorzonera laciniata</i> L.  <i>Scorzonera parviflora</i> Jacq.	native	Vitrivka ( <a href="#">Visjulina, 1965</a> ); Kopanka village ( <a href="#">Visjulina, 1965</a> )  grows near the study area: Zmiiv district, near Lyman, leg. Lavrenko ( <a href="#">Visjulina, 1965</a> )
384	<i>Scorzonera purpurea</i> L.	native	between Balakliya and Andriyivka – quarter Nr 46 of Borysoglibskyi Bir, 2016, KWHA !!
385	<i>Senecio vernalis</i> Waldst. & Kit.	native	between Balakliya and Bayrak – along the highway !!; in the fields !!
386	<i>Senecio vulgaris</i> L.	alien	!!
387	<i>Solidago canadensis</i> L.	alien	!!
388	<i>Solidago virgaurea</i> L.	native	Petrivske – SE, pine plantation !!; between Balakliya and Andriyivka – Borysoglibskyi Bir !!
389	<i>Sonchus arvensis</i> L. subsp. <i>uliginosus</i> (M. Bieb.) Nyman	native	!!
390	<i>Sonchus asper</i> (L.) Hill	alien	Petrivske ( <a href="#">Visjulina, 1965</a> )
391	<i>Sonchus oleraceus</i> L.	alien	!!
392	<i>Sonchus palustris</i> L.	native	in valleys

Appendix. Continued.

Nr	Taxon	Category	Distribution
393	<i>Tanacetum parthenium</i> (L.) Sch. Bip. ( <i>Pyrethrum parthenium</i> (L.) Sm.)	alien	Balakliya – became wild
394	<i>Tanacetum vulgare</i> L.	native	!!
	<i>Taraxacum besarabicum</i> (Hornem.) Hand.-Mazz.		grows near the study area: Zmiiv district, near Lyman, leg. Lavrenko & Tzvelev (Lavrenko, 1973; Visjulina, 1965)
	<i>Taraxacum klokovii</i> Litvin.		grows near the study area: Zmiiv district, near Lyman, leg. Lavrenko (Visjulina, 1965)
395	<i>Taraxacum officinale</i> Wigg. s. l.	native	!!
396	<i>Taraxacum proximum</i> (Dahlst.) Dahlst.	native	!!
397	<i>Taraxacum serotinum</i> (Waldst. & Kit.) Poir.	native	!!
	<i>Tephroseris palustris</i> (L.) Schrenk ex Rchb. ( <i>Senecio arcticus</i> Rupr.)		Grows near the study area: Zmiiv district, near Lyman, leg. Lavrenko (Visjulina, 1962)
398	<i>Tragopogon dubius</i> Scop. subsp. <i>major</i> (Jacq.) Vollm.	native	Kreydyanska Dacha, 2016, KWHA !!
399	<i>Tragopogon podolicus</i> (DC.) Nikitina	native	Balakliya, sub <i>T. leiorhynchus</i> Klokov (Visjulina, 1965); Balakliya – N, military base, 2016, KWHA !!; S Balakliya; Bayrak, along the highway, 2016, KWHA !!; between Balakliya and Bayrak !!; Balakliya – W, sandy steppe !!
400	<i>Tripleurospermum inodorum</i> (L.) Sch. Bip. ( <i>Matricaria perforata</i> Mérat)	alien	!!
401	<i>Tussilago farfara</i> L.	native	!!
402	<i>Xanthium strumarium</i> L. subsp. <i>strumarium</i> ( <i>Xanthium albinum</i> (Widder) Scholz & Sukopp)	alien	!!
403	<i>Xeranthemum annuum</i> L.	native	near Protopopivka and Petrivske – steppe slopes above Siverskyi Donets !!
<b>Balsaminaceae</b>			
404	<i>Impatiens noli-tangere</i> L.	native	between Balakliya and Andriyivka – quarter Nr 46 of Borysoglibskyi Bir, 2016, KWHA !!
405	<i>Impatiens parviflora</i> DC.	alien	Pyatyhirske – S, 2016, KWHA !!
<b>Berberidaceae</b>			
406	<i>Berberis vulgaris</i> L.	native	between Andriyivka and Balakliya – Borysoglibskyi Bir !!; Balakliya – W, quarter Nr 128 of Borysoglibskyi Bir !!; Kreydyanska Dacha !!; Borshchivka – S 2.5 km, in the gully !!
<b>Betulaceae</b>			
407	<i>Alnus glutinosa</i> (L.) Gaertn.	native	valley of Siverskyi Donets and its tributaries (Tkach, 1999); between Balakliya and Andriyivka – along the Siverskyi Donets riverbed !!; Balakliya – E, in the Voloska Balakliyka valley; Petrivske – SE, valley of Siverskyi Donets !!
408	<i>Betula pendula</i> Roth	native	between Balakliya and Andriyivka – Borysoglibskyi Bir, 2016, KWHA !!; Kreydyanska Dacha, 2016, KWHA !!; Petrivske – SE, in the pine forest !!



## Appendix. Continued.

Nr	Taxon	Category	Distribution
409	<i>Corylus avellana</i> L.	native	Protopopivka – N, in the oak forest on the banks of Siverskyi Donets, 2016, KWHA !!; between Andriyivka and Balakliya – Borysoglibskyi Bir, 2016, KWHA !!; Pyatyhirske – SE, gully grove !!; Balakliya – W, groves on the sandy area !!
<b>Boraginaceae</b>			
410	<i>Aegonychon purpureocaeruleum</i> (L.) Holub	native	Andriyivka – S, Borysoglibskyi Bir, near Polovnyche lake, 2016, KWHA !!; Petrivske – SE, pine terrace of Siverskyi Donets !!
411	<i>Anchusa arvensis</i> (L.) M. Bieb. ( <i>Lycopsis arvensis</i> L.)	alien	!!
412	<i>Anchusa gmelinii</i> Ledeb.	native	Pryshyb ( <a href="#">Kotov &amp; Barbarych, 1957</a> ); Milova, 2016, KWHA !!; Petrivske – S, in the pine forest, 2016, KWHA !!; Sezonna station – S, Borysoglibskyi Bir !!; Izyum State Forestry ( <a href="#">Kotov, 1965</a> )
413	<i>Anchusa popovii</i> (Gusul.) Dobrocz.	native	!!
414	<i>Anchusa procera</i> Besser	native	!!
	<i>Anchusa gmelinii</i> × <i>A. popovii</i>	nat. h.	grows near the study area: Izyum district, on the left bank of Siverskyi Donets ( <a href="#">Kotov &amp; Barbarych, 1957</a> )
415	<i>Asperugo procumbens</i> L.	native	!!
416	<i>Buglossoides arvensis</i> (L.) I.M. Johnst	alien	Balakliya – W, Borysoglibskyi Bir, 2016, KWHA !!
417	<i>Cerinthe minor</i> L.	native	Protopopivka – N, Kreydyana Hora !!
418	<i>Cynoglossum officinale</i> L.	alien	Kreydyanska Dacha !!; Balakliya !!
419	<i>Echium vulgare</i> L.	native	!!
420	<i>Lappula squarrosa</i> (Retz.) Dumort	alien	Balakliya – N part, 2016, KWHA !!
421	<i>Lithospermum officinale</i> L.	native	Protopopivka – N, in the oak forest, 2016, KWHA !!
422	<i>Myosotis arvensis</i> (L.) Hill	alien	!!
423	<i>Myosotis cespitosa</i> Schultz	native	near Andriyivka – Sukhyi Lyman ( <a href="#">Lavrenko, 1973</a> ); Borysoglibskyi Bir, in the alder forest !!
424	<i>Myosotis scorpioides</i> L.	native	Protopopivka – on the banks of Siverskyi Donets, 2016, KWHA !!; Balakliya – NW, on the banks of Lyakhova !!
425	<i>Myosotis sparsiflora</i> J.C. Mikan ex Pohl	native	Balakliya – on the banks of Lyakhova !!; between Andriyivka and Balakliya – Borysoglibskyi Bir !!; Bayrak – W, in the Siverskyi Donets valley !!
426	<i>Myosotis ucrainica</i> Czern.	native	Balakliya – N, military base, 2016, KWHA !!
427	<i>Nonea rossica</i> Steven	native	Balakliya – N part, 2016, KWHA !!
428	<i>Onosma simplicissima</i> L. ( <i>Onosma tanaitica</i> Klokov)	native	near Shebelynka – in the ravine on the chalky slopes, 08.08.1976, I.G. Zoz ( <a href="#">Zoz, 1978</a> ); Milova – SW, 2016, KWHA !!
429	<i>Pulmonaria obscura</i> Dumort	native	Bayrak – E, in the oak forest !!; Borysoglibskyi Bir !!; Protopopivka – N, grove in the valley !!
430	<i>Symphytum officinale</i> L.	native	!!
431	<i>Symphytum tauricum</i> Willd.	native	Pryshyb ( <a href="#">Kotov &amp; Barbarych, 1957</a> ); Balakliya – N, military base, 2016, KWHA !!; Bayrak – E !!; Bayrak – S, in the deciduous forest !!; Bayrak – W, Khomyn ravine, 2016, KWHA !!

Checklist of the flora of the vicinity of Balakliya (Kharkiv region, Ukraine)

Appendix. Continued.

Nr	Taxon	Category	Distribution
<b>Brassicaceae</b>			
432	<i>Alliaria petiolata</i> (M. Bieb.) Cavara & Grande	native	!!
433	<i>Alyssum alyssoides</i> (L.) L. ( <i>Alyssum calycinum</i> L.)	native	Borshchivka – N, 2016, KWHA !!; Borshchivka – SE, in the gully !!
434	<i>Alyssum desertorum</i> Stapf	native	Borschivka – S, in the gully, 2016, KWHA !!
435	<i>Arabidopsis thaliana</i> (L.) Heynh.	alien	Balakliya, 2016, KWHA !!; Kreydyanska Dacha, 2016, KWHA !!
436	<i>Armoracia rusticana</i> P. Gaertn., B. Mey. & Scherb.	alien	!!
437	<i>Barbarea stricta</i> Andr. ex Besser	native	Bayrak – W, 2016, KWHA !!
438	<i>Berteroa incana</i> (L.) DC.	native	!!
439	<i>Brassica elongata</i> subsp. <i>integrifolia</i> (Boiss.) Breistr. ( <i>Brassica armoracioides</i> Czern. ex Turcz.)	native	Kreydyanska Dacha, 2016, KWHA !!; Balakliya – N part, along the roads, KWHA !!; Milova – SW, on chalky outcrops, 2016, KWHA !!; Protopopivka – NW, in the gully !!
440	<i>Brassica napus</i> L.	alien	spontaneously !!
441	<i>Brassica nigra</i> (L.) W.D.J. Koch	alien	Kopanka (Klokov & Visjulina, 1953)
442	<i>Bunias orientalis</i> L.	alien	!!
	<i>Camelina linicola</i> K.F. Schimp. & Spenn. ( <i>Camelina alyssum</i> (Mill.) Thell.)		grows near the study area: Zmiiv district, near Lyman, leg. Lavrenko (Klokov & Visjulina, 1953)
443	<i>Camelina microcarpa</i> Andr. ex DC.	alien	Protopopivka – N, in the field, 2016, KWHA !!; Bayrak, 2016, KWHA !!
444	<i>Capsella bursa-pastoris</i> (L.) Medik.	alien	!!
445	<i>Cardamine impatiens</i> L.	native	Kreydyanska Dacha, 2016, KWHA !!; Andriyivka – S, pine forest on the banks of Siverskyi Donets, 2016, KWHA !!
446	<i>Cardamine parviflora</i> L.	native	Andriyivka – S, quarter Nr 90 of Borysoglibskyi Bir, 2016, KWHA !!
447	<i>Cardamine pratensis</i> L.	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1973)
448	<i>Descurainia sophia</i> (L.) Webb ex Prantl	alien	!!
449	<i>Diplotaxis muralis</i> (L.) DC.	alien	Milova – W, on chalky outcrops, 2016, KWHA !!
450	<i>Draba verna</i> L. ( <i>Erophila verna</i> (L.) DC.)	native	!!
451	<i>Eruca vesicaria</i> (L.) Cav.	alien	Verbivka (Klokov & Visjulina, 1953)
452	<i>Erysimum aureum</i> M. Bieb. ( <i>E. sylvaticum</i> M. Bieb.)	native	Kreydyanska Dacha, 2016, KWHA !!; Protopopivka – N, in the forest, 2016, KWHA !!
453	<i>Erysimum canum</i> (Piller & Mitterp.) Polatschek ( <i>Syrenia cana</i> (Piller & Mitterp.) Neilr.)	native	!!
454	<i>Erysimum cheiranthoides</i> L.	native	Izyum State Forestry (Kotov, 1965)
455	<i>Erysimum diffusum</i> Ehrh. ( <i>Erysimum canescens</i> Roth)	native	Balakliya, 2016, KWHA !!; Milova – SW, 2016, KWHA !!; Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!; Protopopivka – N, Kreydyana Hora, 2016, KWHA !!; Kreydyanska Dacha !!; Petrivske – SE, pine terrace of Siverskyi Donets !!

## Appendix. Continued.

Nr	Taxon	Category	Distribution
456	<i>Euclidium syriacum</i> (L.) R. Br.	alien	Balakliya – N, military base, 2016, KWHA !!; Milova !!
457	<i>Lepidium campestre</i> (L.) W.T. Aiton	alien	Milova – SW, 2016, KWHA !!;
458	<i>Lepidium densiflorum</i> Schrad.	alien	!!
459	<i>Lepidium draba</i> L. ( <i>Cardaria draba</i> (L.) Desv.)	alien	!!
460	<i>Lepidium latifolium</i> L.	native	Balakliya – on the railway track, 2016, KWHA !!
461	<i>Lepidium ruderales</i> L.	alien	!!
462	<i>Meniocus linifolius</i> (Stephan ex Willd.) DC.	native	Borshchivka – SE, leg. N.B. Saidakhmedova!
463	<i>Noccaea perfoliata</i> (L.) Al- Shehbaz ( <i>Thlaspi perfoliatum</i> L.)	alien	!!
464	<i>Noccaea praecox</i> (Wulfen) F.K. Mey. ( <i>Thlaspi praecox</i> Wulfen)	native	Kopanka (Klokov & Visjulina, 1953)
465	<i>Odontarrhena alpestris</i> (L.) Ledeb. ( <i>Alyssum tortuosum</i> Waldst. & Kit.)	native	Protopopivka – NW, on chalky outcrops
466	<i>Odontarrhena tortuosa</i> (Willd.) C.A. Mey. subsp. <i>cretacea</i> (Kotov) Španiel, Al- Shehbaz & Marhold ( <i>Alyssum gymnopodium</i> P.A. Smirn.)	native	Milova – SW, on chalky outcrops, 2016, KWHA !!
467	<i>Raphanus raphanistrum</i> (L.) subsp. <i>sativus</i> (L.) Domin ( <i>Raphanus sativus</i> L.)	alien	!!
468	<i>Rorippa amphibia</i> (L.) Besser	native	Izyum State Forestry, Rogozuvate lakes (Savenkov, 1910); Petrivske – an arm of Siverskyi Donets, 07.08.1980 (Dubyna, 2006); Savyntsi – in Siverskyi Donets, 03.06.1980 (Dubyna, 2006); Balakliya – on the banks of Lyakhova !!
469	<i>Rorippa austriaca</i> (Crantz) Besser	native	!!
470	<i>Rorippa palustris</i> (L.) Besser	native	!!
471	<i>Sinapis arvensis</i> L.	alien	Milova, 2016, KWHA !!
472	<i>Sisymbrium altissimum</i> L.	native	Balakliya – N, 2016, KWHA !!; Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!
473	<i>Sisymbrium loeselii</i> L.	alien	Milova, 2016, KWHA !!
474	<i>Sisymbrium officinale</i> (L.) Scop.	alien	!!
475	<i>Sisymbrium polymorphum</i> (Murray) Roth	native	Kreydyanska Dacha, 2016, KWHA !!; Balakliya – N part, along the roads, 2016, KWHA !!
476	<i>Sisymbrium volgense</i> M. Bieb. ex E. Fourn.	native	Balakliya – N part, 2016, KWHA !!; Kreydyanska Dacha !!
477	<i>Thlaspi arvense</i> L.	alien	!!
478	<i>Turritis glabra</i> L.	native	Kreydyanska Dacha, 2016, KWHA !!
<b>Campanulaceae</b>			
479	<i>Adenophora liliifolia</i> (L.) Ledeb. ex A. DC.	native	Chepil (Kotov, 1961); Vitrivka (Kotov, 1961)



Appendix. Continued.

Nr	Taxon	Category	Distribution
480	<i>Asyneuma canescens</i> (Waldst. & Kit.) Griseb. & Schenk	native	!!
481	<i>Campanula bononiensis</i> L.	native	Balakliya !!; between Andriyivka and Balakliya – Borysoglibskiyi Bir, 2016, KWHA !!; Milova – SW, 2016, KWHA !!
482	<i>Campanula glomerata</i> L.	native	Balakliya – W, Borysoglibskiyi Bir, 2016, KWHA !!; Petrivske – S, 2016, KWHA !!; Kreydyanska Dacha !!
483	<i>Campanula patula</i> L.	native	in the valleys of Siverskyi Donets and its tributaries !!
484	<i>Campanula persicifolia</i> L.	native	between Balakliya and Andriyivka – quarter Nr 47 of Borysoglibskiyi Bir, 2016, KWHA !!; Kreydyanska Dacha, in the quarter Nr 37; etc. !!
485	<i>Campanula rapunculoides</i> L.	native	Milova – SW, 2016, KWHA !!; Protopopivka – N, in the oak forest !!
486	<i>Campanula sibirica</i> L.	native	Sezonna station – S, Borysoglibskiyi Bir !!; Milova !!
487	<i>Jasione montana</i> L.	native	between Andriyivka and Balakliya – Borysoglibskiyi Bir, 2016, KWHA !!; Petrivske – S, in the pine forest, 2016, KWHA !!
<b>Cannabaceae</b>			
488	<i>Cannabis sativa</i> L. ( <i>Cannabis ruderalis</i> Janisch.)	alien	!!
489	<i>Humulus lupulus</i> L.	native	!!
<b>Caprifoliaceae</b>			
490	<i>Cephalaria uralensis</i> (Murray) Schrad. ex Roem. & Schult	native	Kreydyanska Dacha !!
491	<i>Dipsacus strigosus</i> Willd. ex Roem. & Schult	native	Andriyivka (Kotov, 1961); Protopopivka – N, 2016, KWHA !!
492	<i>Knautia arvensis</i> (L.) Coult.	native	Milova – SW, 2016, KWHA !!; Borysoglibskiyi Bir !!; Bayrak – W !!
493	<i>Lomelosia argentea</i> (L.) Greuter & Burdet ( <i>Scabiosa ucranica</i> L.)	native	Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!
494	<i>Lonicera tatarica</i> L.	alien	in the plantations and became wild; Kreydyanska Dacha !!; Bayrak – W !! Borshchivka – SE !!; etc. !!
495	<i>Scabiosa ochroleuca</i> L.	native	Balakliya – N, military base, 2016, KWHA !!
496	<i>Valeriana officinalis</i> L.	native	!!
497	<i>Valeriana pratensis</i> Dierb. ( <i>Valeriana collina</i> Wallr.)	native	Bayrak – the valley of Siverskyi Donets, 2016, KWHA !!; Kreydyanska Dacha !!
498	<i>Valeriana wolgensis</i> Kazak. ( <i>Valeriana nitida</i> Kreyer)	native	between Balakliya and Bayrak – meadow in the Siverskyi Donets valley, 07.1978 (Gorelova et al., 1981)
499	<i>Valerianella carinata</i> Loisel	native	between Balakliya and Bayrak – on the roadside, 2016, KWHA !!
<b>Caryophyllaceae</b>			
500	<i>Arenaria serpyllifolia</i> L.	native	Andriyivka – S, in the pine forest, 2016, KWHA !!; Sezonna station – S, Borysoglibskiyi Bir !!
501	<i>Cerastium holosteoides</i> Fr.	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1973); Andriyivka, S, Borysoglibskiyi Bir, 2016, KWHA !!
502	<i>Dianthus campestris</i> M. Bieb.	native	Balakliya – W, Borysoglibskiyi Bir, 2016, KWHA !!; Kreydyanska Dacha, 2016, KWHA !!; Andriyivka – S, in the Siverskyi Donets valley, 2016, KWHA !!; Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!; Borshchivka – N, 2016, KWHA !!; Balakliya – W, sandy steppe !!; Petrivske – SE, pine terrace of Siverskyi Donets !!

## Appendix. Continued.

Nr	Taxon	Category	Distribution
503	<i>Dianthus capitatus</i> DC. subsp. <i>andrzejkowskianus</i> Zapal.	native	Zavgorodnye – N, on the banks of Siverskyi Donets, 2016, KWHA !!
504	<i>Dianthus polymorphus</i> M. Bieb ( <i>Dianthus platyodon</i> Klokov)	native	Kreydyanska Dacha 2016, 2016, KWHA !!
505	<i>Eremogone biebersteinii</i> (Schlecht.) Holub	native	Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!
506	<i>Eremogone longifolia</i> (M. Bieb.) Fenzl	native	Balakliya (Kotov, 1952); Balakliya – W, sands, 2016, KWHA !!; Kreydyanska Dacha, 2016, KWHA !!
507	<i>Gypsophila oligosperma</i> Krasnova	native	Milova – SW, 2016, KWHA !!; Protopopivka – Kreydyana Hora, 2016, KWHA !!
508	<i>Gypsophila paniculata</i> L.	native	Balakliya – along the railways and roadsides, 2016, KWHA !!; Balakliya – SW, in the Lyakhova valley !!; Balakliya – W, sandy steppe !!; Petrivske – SE, pine terrace of Siverskyi Donets !!; Borysoglibskyi Bir !!
509	<i>Gypsophila perfoliata</i> L.	alien	Milova – SW, on chalky outcrops, 2016, KWHA !!
510	<i>Herniaria incana</i> Lam. ( <i>Herniaria besseri</i> Fisch. ex Hornem.)	native	near Volokhiv Yar village, Chuhuiv district (Kotov, 1952), – in the Serednya Balakliyka valley
511	<i>Herniaria polygama</i> J. Gay	native	Kreydyanska Dacha, 2016, KWHA !!
512	<i>Holosteum umbellatum</i> L.	native	!!
513	<i>Minuartia setacea</i> (Thuill.) Hayek ( <i>Minuartia leiosperma</i> Klokov)	native	Protopopivka – NW, chalky slopes, 2016, KWHA !!
514	<i>Psammophiliella muralis</i> (L.) Ikonn.	native	Kreydyanska Dacha, 2016, KWHA !!; Andriyivka – S, Borysoglibskyi Bir !!; Petrivske – SE !!
515	<i>Saponaria officinalis</i> L.	alien	!!
516	<i>Scleranthus annuus</i> L.	alien	!!
517	<i>Silene baccifera</i> (L.) Durande ( <i>Cucubalus baccifer</i> L.)	native	Balakliya – W !!
518	<i>Silene borysthena</i> (Gruner) Walters ( <i>Otites borysthenicus</i> Klokov)	native	Balakliya – W, 2016, KWHA !!; Borshchivka – NW, on the slopes in the Voloska Balakliyka valley !!; Petrivske – SE, pine plantation !!
519	<i>Silene chersonensis</i> (Zapal.) Kleopow ( <i>Otites chersonensis</i> (Zapal.) Klokov)	native	Shebelynka! (Kleopov, 1936); Balakliya – N part !!
520	<i>Silene chlorantha</i> (Willd.) Ehrh.	native	!!
521	<i>Silene dichotoma</i> Ehrh.	native	Milova – SW, 2016, KWHA !!
522	<i>Silene latifolia</i> (Poir.) subsp. <i>alba</i> (Mill.) Greuter & Burdet ( <i>Melandrium album</i> (Mill.) Garcke)	native	!!
523	<i>Silene multiflora</i> (Ehrh.) Pers. ( <i>Silene steppicola</i> Kleopow)	native	Balakliya (Kotov, 1952); Andriyivka (Kotov, 1952); Balakliya – E and N, 2016, KWHA !!; Kreydyanska Dacha, 2016, KWHA !!; Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!; Bayrak – meadow in the valley of Siverskyi Donets, 2016, KWHA !!; Milova – W !!
524	<i>Silene nutans</i> L.	native	Kreydyanska Dacha !!; Bayrak – W !!; Borysoglibskyi Bir !!
525	<i>Silene supina</i> M. Bieb.	native	Protopopivka – NW, chalky outcrops, 2016, KWHA !!

Appendix. Continued.

Nr	Taxon	Category	Distribution
526	<i>Silene viscosa</i> (L.) Pers. ( <i>Elisanthe viscosa</i> (L.) Rupr.)	native	Balakliya – N, near the military base, 2016, KWHA !!
527	<i>Silene vulgaris</i> (Moench) Garcke ( <i>Oberna behen</i> (L.) Ikonn.)	native	!!
528	<i>Silene wolgensis</i> (Hornem.) Otth ( <i>Otites wolgensis</i> (Hornem.) Grossh.)	native	Balakliya – N part, 2016, KWHA !!
529	<i>Spergula arvensis</i> L. <i>Spergularia marina</i> (L.) Besser	native	Balakliya – SW, quarter Nr 29 of Kreydyana Hora, 2016, KWHA !! grows near the study area: Zmiiv district, near Lyman lake (Lavrenko, 1973)
530	<i>Stellaria aquatica</i> (L.) Scop. ( <i>Myosoton aquaticum</i> (L.) Moench)	native	!!
531	<i>Stellaria crassifolia</i> Ehrh.	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1927, 1973)
532	<i>Stellaria graminea</i> L.	native	Balakliya – N, 2016, KWHA !!; Bayrak – W, Khomyn ravine !!
533	<i>Stellaria holostea</i> L.	native	!!
534	<i>Stellaria media</i> (L.) Vill.	native	!!
535	<i>Stellaria palustris</i> Ehrh. ex Hoffm.	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1973)
<b>Celastraceae</b>			
536	<i>Euonymus europaeus</i> L.	native	!!
537	<i>Euonymus verrucosus</i> Scop. <i>Parnassia palustris</i> L.	native	!! grows near the study area: Zmiiv district, near Lyman lake (Lavrenko, 1973)
<b>Ceratophyllaceae</b>			
538	<i>Ceratophyllum demersum</i> L.	native	!!
539	<i>Ceratophyllum platyacanthum</i> Cham.	native	Petrivske – an arm of Siverskyi Donets, 08.07.1986 (Dubyna, 2006)
540	<i>Ceratophyllum submersum</i> L.	native	between Andriyivka and Balakliya – Lebyazhe lakes (Kazarinova, 2015); Donets – in Zymnye lake, 09.06.2012 (Kazarinova, 2015)
541	<i>Ceratophyllum tanaiticum</i> Sapjog	native	without exact location (Dubyna et al., 1985); grows near the study area: Zmiiv district, near Lyman (Klokov & Visjulina, 1953)
<b>Convolvulaceae</b>			
542	<i>Calystegia sepium</i> (L.) R. Br.	native	!!
543	<i>Convolvulus arvensis</i> L.	native	!!
544	<i>Cuscuta campestris</i> Yunck.	alien	Protopopivka – N, 2016, KWHA !!
545	<i>Cuscuta epithimum</i> (L.) L.	native	Milova – SW, 2016, KWHA !!
<b>Cornaceae</b>			
546	<i>Cornus sanguinea</i> L. subsp. <i>sanguinea</i> ( <i>Swida sanguinea</i> (L.) Opiz)	native	!!
547	<i>Cornus sanguinea</i> subsp. <i>australis</i> (C.A. Mey.) Jáv. ( <i>Swida australis</i> (C.A. Mey.) Pojark. ex Grossh.)	alien	!!



## Appendix. Continued.

Nr	Taxon	Category	Distribution
<b>Crassulaceae</b>			
548	<i>Hylotelephium maximum</i> (L.) Holub subsp. <i>maximum</i>	native	Borysoglibskiy Bir, 2016, KWHA !!; Balakliya – in the valleys !!; between Balakliya and Bayrak – in the Siverskyi Donets valley !!; Kreydyanska Dacha – rarely and mainly on the forest edges; Andriyivka – S, at the Siverskyi Donets bank !!; Protopopivka – N, in the forest near Kreydyana Hora !!; Bayrak – S, in the deciduous forest !!
549	<i>Hylotelephium maximum</i> subsp. <i>ruprechtii</i> (Jalas) Dostál (incl. <i>Hylotelephium</i> <i>stepposum</i> (Boriss.) Tzvelev)	native	Kreydyanska Dacha, 2016, KWHA !!; Borshchivka – S 2.5 km, in the gully (on the dense substrate it has the habitus and features of <i>H. stepposus</i> ), 2016, KWHA !! (Shynder & Saidakhmedova, 2018); Balakliya – W, sandy steppe !!
	<i>Hylotelephium maximum</i> subsp. <i>maximum</i> × <i>H.</i> <i>maximum</i> subsp. <i>ruprechtii</i>	nat.h.	Balakliya – SW, quarter Nr 51 of Kreydyanska Dacha, 2016, KWHA !!
550	<i>Petrosedum rupestre</i> (L.) P.V. Heath	alien	cultivated and occasionally spread to the dry habitats. Balakliya – near the cemetery in Kreydyanska Dacha; Balakliya – N, military base
551	<i>Phedimus hybridus</i> (L.) 't Hart ( <i>Sedum hybridum</i> L.)	alien	Balakliya – SW, quarter Nr 13 of Kreydyanska Dacha, became wild, several curtains, 2016, KWHA !!
552	<i>Sedum acre</i> L.	native	Balakliya – on the roadsides !!; Kreydyanska Dacha !!; Sezonna station – S, Borysoglibskiy Bir !!; Andriyivka !!; Protopopivka !!; Andriyivka – S, pine terrace of Siverskyi Donets !!; Balakliya – W, sandy steppe and quarter Nr 128 of Borysoglibskiy Bir !!; Petrivske – SE, pine terrace of Siverskyi Donets !!; between Balakliya and Bayrak – on the highway side !!
553	<i>Sedum sexangulare</i> L.	alien	between Balakliya and Andriyivka – quarter Nr 44 of Borysoglibskiy Bir, 2016, KWHA !!; <i>ibid.</i> , quarter Nr 11 !!
554	<i>Sempervivum ruthenicum</i> Schnittsp. & C.B. Lehm.	native	Petrovsky forestry, on the banks of Siverskyi Donets, 17.07.1950, leg. Kotov (KW) !!; between Andriyivka and Balakliya – Borysoglibskiy Bir (quarters Nrs 46, 128, etc.); Kreydyanska Dacha (quarters Nrs 5, 8, 21–23, 38, 47–51, etc.) !!; quarter Nr 51 of Kreydyanska Dacha, KWHA !!
<b>Cucurbitaceae</b>			
555	<i>Echinocystis lobata</i> (Mincx.) Torr. & A. Gray	alien	Protopopivka !!
<b>Droseraceae</b>			
	<i>Drosera anglica</i> Huds.		grows near the study area: Zmiiv district, near Lyman, leg. Chernyayev (Klokov & Visjulina, 1953)
	<i>Drosera rotundifolia</i> L.		grows near the study area: Zmiiv district, near Lyman, leg. Lavrenko (Klokov & Visjulina, 1953)
<b>Elaeagnaceae</b>			
556	<i>Elaeagnus angustifolia</i> L.	alien	between Pyatyhirske and Milova – on chalky outcrops and steppe slopes !!
<b>Ericaceae</b>			
557	<i>Chimaphila umbellata</i> (L.) W.P.C. Barton	native	Balakliya (Kotov & Barbarych, 1957)
558	<i>Monotropa hypopitys</i> L.	native	Balakliya (Kotov & Barbarych, 1957); Pryshyb (Kotov & Barbarych, 1957)
559	<i>Orthilia secunda</i> (L.) House	native	Balakliya (Kotov & Barbarych, 1957); quarter Nr 29 of Kreydyanska Dacha, 2016, KWHA !!; <i>ibid.</i> , quarter Nr 38 !!

Checklist of the flora of the vicinity of Balakliya (Kharkiv region, Ukraine)

Appendix. Continued.

Nr	Taxon	Category	Distribution
<b>Euphorbiaceae</b>			
560	<i>Euphorbia agraria</i> M. Bieb.	native	!!
561	<i>Euphorbia helioscopia</i> L.	alien	Milova !!
562	<i>Euphorbia kaleniczenkoi</i> Czern.	native	!!
563	<i>Euphorbia microcarpa</i> (Prokh.) Krylov ( <i>Euphorbia subtilis</i> Prokh.)	native	Bayrak – W, Khomyn ravine, 2016, KWHA !!; Sezonna station – S, Borysoglibskiy Bir !!
564	<i>Euphorbia palustris</i> L.	native	!!
565	<i>Euphorbia seguieriana</i> Neck.	native	Borshchivka – S, pine plantation, 2016, KWHA !! Borshchivka – SE, in the gully !!; Kreydyanska Dacha !!; Sezonna station – S, Borysoglibskiy Bir !!; Milova – SW, chalky slopes !!; Balakliya – SW part, in Lyakhova valley !!; Balakliya – W, sandy steppe !!; Petrivske – SE, pine terrace of Siverskyi Donets !!
566	<i>Euphorbia semivillosa</i> Prokh.	native	Milova – SW, 2016, KWHA !!; Andriyivka – S, pine terrace of Siverskyi Donets !!; Balakliya – W, in the grove !!
567	<i>Euphorbia stepposa</i> Zoz ex Prokh.	native	Borschivka – S, in the gully, 2016, KWHA !!; Protopopivka – N, Kreydyana Hora, 2016, KWHA !!; Milova – SW !! (Taliev, 1904); Borshchivka – NW !!
568	<i>Euphorbia virgata</i> Waldst. & Kit.	native	Balakliya, 2016, KWHA !!; etc. !!
<b>Fabaceae</b>			
569	<i>Amorpha fruticosa</i> L.	alien	Kreydyanska Dacha, 2016, KWHA !!
570	<i>Astragalus albicaulis</i> DC.	native	near Shebelynka, 08.07.1976 (Zoz, 1978); Milova – SW, on chalky outcrops, 2016, KWHA !!
571	<i>Astragalus austriacus</i> Jacq.	native	!!
572	<i>Astragalus cicer</i> L.	native	!!
573	<i>Astragalus glycyphyllos</i> L.	native	Milova – SW !!; Balakliya – W !!
574	<i>Astragalus onobrychis</i> L.	native	Milova – W !!; Borshchivka – NW and S !!
575	<i>Astragalus pallescens</i> M. Bieb.	native	Borshchivka – NW, slope over the right bank of Voloska Balakliyka, 2016, KWHA !!; Borshchivka – S 2.5 km, in the gully !!
576	<i>Astragalus ucrainicus</i> M. Pop. & Klokov	native	Protopopivka – NW, on chalky outcrops, 2016, KWHA !!
577	<i>Astragalus varius</i> S.G. Gmel.	native	between Balakliya and Andriyivka – Borysoglibskiy Bir, 2016, KWHA !!; quarter Nr 8 of Kreydyanska Dacha !!; Balakliya – W, sandy steppe !!; Petrivske – SE, pine terrace of Siverskyi Donets !!
578	<i>Caragana arborescens</i> Lam.	alien	!!
579	<i>Caragana frutex</i> (L.) K. Koch	native	Balakliya – slope of Balakliyska Hora, 2016, KWHA !!; Bayrak – Khomyn ravine, 2016, KWHA !!; Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!; Protopopivka – N part and near Kreydyana Hora !!; Borshchivka – NW !!; Milova – W !!
580	<i>Chamaecytisus austriacus</i> (L.) Link	native	Milova – SW, chalky slopes, 2016, KWHA !!
581	<i>Chamaecytisus ruthenicus</i> (Fisch. ex Wol.) Klásk.	native	Kreydyanska Dacha, 2016, KWHA !!; Borschivka – S, in the gully, 2016, KWHA !!; between Balakliya and Andriyivka – Borysoglibskiy Bir !!; Petrivske – SE, in the pine forest !!

## Appendix. Continued.

Nr	Taxon	Category	Distribution
582	<i>Genista tinctoria</i> L.	native	Pryshyb (Zerov, 1954); Milova – SW, on chalky outcrops, 2016, KWHA !!; Protopopivka – N part, chalky slopes, 2016, KWHA !!; Kreydyanska Dacha !!; Bayrak – W 3 km, near the country estates !!; between Andriyivka and Balakliya – Borysoglibskyi Bir !!; Balakliya – W, sandy steppe and quarter Nr 128 of Borysoglibskyi Bir !!; Petrivske – SE, in the pine forest !!
583	<i>Gleditsia triacanthos</i> L.	alien	in the forest plantations, from where it spreads by seeds !!
584	<i>Lathyrus pratensis</i> L.	native	Milova – W, 2016, KWHA !!; Balakliya – E, in the Voloska Balakliyka valley !!; Pyatyhirske – SE, gully grove !!
585	<i>Lathyrus sylvestris</i> L.	native	!!
586	<i>Lathyrus tuberosus</i> L.	alien	!!
587	<i>Lathyrus vernus</i> (L.) Bernh.	native	Protopopivka – N, in the oak forest, 2016, KWHA !!
588	<i>Lotus corniculatus</i> L.	native	!!
589	<i>Lotus stepposus</i> Kramina	native	!!
590	<i>Medicago falcata</i> L. (incl. <i>Medicago romanica</i> Prodan)	native	!!
591	<i>Medicago lupulina</i> L.	native	!!
592	<i>Medicago sativa</i> L.	alien	!!
593	<i>Medicago</i> × <i>varia</i> Martyn	alien	!!
594	<i>Melilotus albus</i> Medik.	native	!!
595	<i>Melilotus officinalis</i> (L.) Pall.	native	!!
596	<i>Onobrychis arenaria</i> (Kit.) DC.	native	!!
597	<i>Onobrychis viciifolia</i> Scop.	alien	Bayrak – W, 2016, KWHA !!
598	<i>Ononis arvensis</i> L.	native	Balakliya – in the valleys, 2016, KWHA !!; Verbivka !!
599	<i>Oxytropis pilosa</i> (L.) DC.	native	Balakliya – W, 2016, KWHA !!; Milova – SW, 2016, KWHA !!; Bayrak – W, Khomyn ravine !!
600	<i>Robinia pseudoacacia</i> L.	alien	!!
601	<i>Securigera varia</i> (L.) Lassen	native	!!
602	<i>Trifolium alpestre</i> L.	native	Borschivka – S, in the gully, 2016, KWHA !!; Kreydyanska Dacha !!; Bayrak – W 4 km, Khomyn ravine !!; Milova – SW, on the slopes !!
603	<i>Trifolium arvense</i> L.	native	Borschivka – S, in the gully !!; Balakliya – W, sandy steppe !!; Petrivske – SE, pine terrace of Siverskyi Donets !!
604	<i>Trifolium fragiferum</i> L.	native	!!
605	<i>Trifolium hybridum</i> L.	native	!!
606	<i>Trifolium medium</i> L.	native	!!
607	<i>Trifolium montanum</i> L.	native	Kreydyanska Dacha !!; Bayrak – W 4 km, Khomyn ravine !!; Milova – SW, chalky slopes !!; Balakliya – W, sandy steppe !!; Borschivka – SE, in the gully !!; Milova – SW, meadow steppe on the northern slope !!
608	<i>Trifolium pratense</i> L.	native	!!
609	<i>Trifolium repens</i> L.	native	!!
610	<i>Vicia cracca</i> L.	native	!!
611	<i>Vicia hirsuta</i> (L.) S.F. Gray	alien	between Balakliya and Andriyivka – Borysoglibskyi Bir, 2016, KWHA !!; Petrivske – S, 2016, KWHA !!



Checklist of the flora of the vicinity of Balakliya (Kharkiv region, Ukraine)

Appendix. Continued.

Nr	Taxon	Category	Distribution
612	<i>Vicia pisiformis</i> L.	native	Pyatyhirske – S, 2016, KWHA !!; Protopopivka – N, grove in the valley !!
613	<i>Vicia sativa</i> (L.) subsp. <i>nigra</i> Ehrh. ( <i>Vicia angustifolia</i> Reichard)	alien	Milova – SW, 2016, KWHA !!; between Balakliya and Bayrak – on the roadside, 2016, KWHA !!
614	<i>Vicia sepium</i> L.	native	Balakliya – W, 2016, KWHA !!; etc. !!
615	<i>Vicia tenuifolia</i> Roth.	native	Balakliya – N part, 2016, KWHA !!
616	<i>Vicia villosa</i> Roth.	alien	!!
<b>Fagaceae</b>			
617	<i>Quercus robur</i> L.	native	!!
<b>Gentianaceae</b>			
618	<i>Centaurium pulchellum</i> (Sw.) Druce	native	Protopopivka – N, on the banks of Siverskyi Donets, 2016, KWHA !!
<b>Geraniaceae</b>			
619	<i>Erodium cicutarium</i> (L.) L'Hér.	native	Balakliya – northern part, 2016, KWHA !!
620	<i>Geranium collinum</i> Stephan ex Willd.	native	Balakliya – at Srednya Balakliyka, 2016, KWHA !!
621	<i>Geranium divaricatum</i> Ehrh.	native	between Balakliya and Andriyivka, Borysoglibskyi Bir, 2016, KWHA !!; Milova, 2016, KWHA !!
622	<i>Geranium palustre</i> L.	native	Izyum State Forestry (Kotov, 1965)
623	<i>Geranium pratense</i> L.	native	Borysoglibskyi Bir !!
624	<i>Geranium pusillum</i> L.	alien	Borysoglibskyi Bir !!; Protopopivka !!
625	<i>Geranium robertianum</i> L.	native	!!
626	<i>Geranium sanguineum</i> L.	native	Kreydyanska Dacha, 2016, KWHA !!; Pyatyhirske – SE, gully grove !!; between Balakliya and Andriyivka – Borysoglibskyi Bir !!
<b>Grossulariaceae</b>			
627	<i>Ribes aureum</i> Pursh	alien	cultivated in the forest plantations, sometimes there occur individuals of generative origin: quarter Nr 8 of Kreydyanska Dacha, 2016, KWHA !!; ibid, quarters Nrs 50, 51, etc. !!; Bayrak – W, pine plantation !!
628	<i>Ribes rubrum</i> L.	alien	quarter Nr 8 of Kreydyanska Dacha, became wild, 2016, KWHA !!
629	<i>Ribes uva-crispa</i> L.	alien	Balakliya – N part, became wild; Balakliya – N, military base, in the park, 2016, KWHA !!; quarter Nr 5 of Kreydyanska Dacha, 2016, KWHA !!
<b>Haloragaceae</b>			
630	<i>Myriophyllum spicatum</i> L.	native	Balakliya – in the valleys, 07.1977, leg. Gorelova, 2016, KWHA !!; Donets (settlement) – in Siverskyi Donets, 17.09.2011 (Kazarinova, 2015); Savyntsi – in Siverskyi Donets, 03.08.2011 (Kazarinova, 2015); Donets – in Zymnye lake, 09.06.2012 (Kazarinova, 2015); Andriyivka – W, Lyman lake, 23.06.2012 (Kazarinova, 2015); Izyum State Forestry, Ploske lake, [49.2862°, 36.9557°], 23.07.1907 (Savenkov, 1910)
631	<i>Myriophyllum verticillatum</i> L.	native	Donets (settlement) – in Siverskyi Donets, 17.09.2011 (Kazarinova, 2015); Donets – Zymnye lake, 09.06.2012 (Kazarinova, 2015); Balakliya – Siverskyi Donets, 03.06.1980 (Dubyna, 2006); Andriyivka – W, Lyman lake, 23.06.2012 (Kazarinova, 2015)

## Appendix. Continued.

Nr	Taxon	Category	Distribution
<b>Hypericaceae</b>			
632	<i>Hypericum elegans</i> Stephan ex Willd.	native	Milova – W, chalky slopes, 2016, KWHA !!; Protopopivka – Kreydyana Hora, 2016, KWHA !!; Protopopivka – NW, in the gully, 2016, KWHA !!
633	<i>Hypericum perforatum</i> L.	native	Milova – SW, 2016, KWHA !!; etc. !!
<b>Juglandaceae</b>			
634	<i>Juglans regia</i> L.	alien	!!
<b>Lamiaceae</b>			
635	<i>Ajuga chamaepitys</i> (L.) Schreb. subsp. <i>chia</i> (Schreb.) Arcang. ( <i>Ajuga chia</i> Schreb.)	native	Milova (Taliev, 1904); Bayrak – W 4 km, Khomyn ravine !!; Borshchivka – NW, in the Voloska Balakliyka valley !!; Borshchivka – S, in the gully !!
636	<i>Ajuga genevensis</i> L.	native	!!
637	<i>Ballota nigra</i> L.	alien	!!
638	<i>Betonica officinalis</i> L.	native	Kreydyanska Dacha, 2016, KWHA !!; Milova – SW, 2016, KWHA !!; Balakliya – E, in the Voloska Balakliyka valley !!; between Balakliya and Andriyivka – in the Siverskyi Donets valley !!; Balakliya – W, on the sandy area !!; Petrivske – in the valley of Siverskyi Donets !!
639	<i>Chaiturus marrubiastrum</i> (L.) Rchb.	native	Balakliya – in the Lyakhova valley, 2016, KWHA !!; Borshchivka – N, 2016, KWHA !!; Protopopivka – N, 2016, KWHA !!; Petrivske – SE, pine terrace of Siverskyi Donets !!
640	<i>Clinopodium acinos</i> (L.) Kuntze ( <i>Acinos arvensis</i> (Lam.) Dandy)	native	Balakliya – N part !!; Borysoglibskyi Bir, 2016, KWHA !!
641	<i>Dracocephalum thymiflorum</i> L.	alien	between Balakliya and Andriyivka – Borysoglibskyi Bir, 2016, KWHA !!; Borshchivka – SW 2 km, pine plantation, 2016, KWHA !!; Kreydyanska Dacha !!
642	<i>Galeopsis bifida</i> Boenn.	native	between Balakliya and Andriyivka – Borysoglibskyi Bir, 2016, KWHA !!
643	<i>Galeopsis tetrahit</i> L.	native	Borysoglibskyi Bir !!; Kreydyanska Dacha !! Petrivske – SE, in the pine forest
644	<i>Glechoma hederacea</i> L.	native	!!
645	<i>Lamium amplexicaule</i> var. <i>orientale</i> (Pacz.) Mennema ( <i>Lamium paczoskianum</i> Worosch.)	native	Kreydyanska Dacha, 2016, KWHA !!; Borshchivka – S, 2016, KWHA !!
646	<i>Lamium maculatum</i> (L.) L.	native	!!
647	<i>Lamium purpureum</i> L.	alien	!!
648	<i>Leonurus quinquelobatus</i> Gilib.	native	!!
649	<i>Lycopus europaeus</i> L.	native	!!
650	<i>Lycopus exaltatus</i> L. f.	native	Donets – in Zymnye lake, 09.06.2012 (Kazarinova, 2015); Petrivske – SE, valley of Siverskyi Donets !!
651	<i>Marrubium peregrinum</i> L. ( <i>Marrubium praecox</i> Janka)	native	Milova – SW, 2016, KWHA !!; Bayrak – Khomyn ravine, 2016, KWHA !!; Protopopivka !!; Petrivske – SE, pine terrace of Siverskyi Donets !!
652	<i>Mentha aquatica</i> L.	native	Petrivske – an arm of Siverskyi Donets, 08.1980 (Dubyna, 2006); Savyntsi – in Siverskyi Donets, 03.11.1980 (Dubyna, 2006); Savyntsi – in Siverskyi Donets, 03.08.2011 (Kazarinova, 2015); Balakliya – in the Voloska Balakliyka valley, 2016, KWHA !!; Protopopivka, Petrivske – on the banks of Siverskyi Donets, 2016, KWHA !!

Checklist of the flora of the vicinity of Balakliya (Kharkiv region, Ukraine)

Appendix. Continued.

Nr	Taxon	Category	Distribution
653	<i>Mentha arvensis</i> L.	alien	near Andriyivka – Sukhyi Lyman ( <a href="#">Lavrenko, 1973</a> )
654	<i>Mentha</i> × <i>verticillata</i> L.	native	Balakliya – E, 2016, KWHA !!
655	<i>Nepeta cataria</i> L.	alien	Balakliya !!; Protopopivka !!; Petrivske – valley of Siverskyi Donets !!
656	<i>Origanum vulgare</i> L.	native	quite often
657	<i>Phlomis herba-venti</i> (L.) subsp. <i>pungens</i> (Willd.) Maire ex DeFilipps ( <i>Phlomis</i> <i>pungens</i> Willd.)	native	Milova – SW, 2016, KWHA !!; Balakliya – W, sandy steppe !!; Borshchivka – S 2.5 km, in the gully !!
658	<i>Phlomis tuberosa</i> L.	native	Bayrak – W, Khomyn ravine, 2016, KWHA !!; Bayrak – E, meadow in the forest !!; Protopopivka – N !!; Balakliya – W, sandy steppe !!; Petrivske – SE, pine terrace of Siverskyi Donets !!; Milova – SW, meadow steppe on the northern slope !!
659	<i>Prunella vulgaris</i> L.	native	!!
660	<i>Salvia aethiopsis</i> L.	native	Milova – W, chalky slopes, 2016, KWHA !!; Balakliya – S !!; Bayrak – W, Khomyn ravine !!; Borshchivka – NW, in the Voloska Balakliyka valley !!; Protopopivka – N and NW !!; protected area Protopopivskyi near Protopopivka ( <a href="#">Filatova et al., 2016</a> )
661	<i>Salvia nemorosa</i> L. subsp. <i>nemorosa</i>	native	!!
662	<i>Salvia nemorosa</i> subsp. <i>pseudosylvestris</i> (Stapf) Bornm. ( <i>Salvia tesquicola</i> Klokov & Pobed.)	native	!!
663	<i>Salvia nutans</i> L.	native	Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!; Bayrak – W, Khomyn ravine, 2016, KWHA !!; Milova – SW, steppic and chalky slopes !!; Pyatyhirske – E, steppic slopes !!; Borshchivka – NW, on the slope !!; Protopopivka – N, Kreydyana Hora !!
664	<i>Salvia pratensis</i> L.	native	Milova – W, chalky slopes, 2016, KWHA !!
665	<i>Salvia verticillata</i> L.	native	!!
666	<i>Scutellaria altissima</i> L.	native	Bayrak – E, !!, 2016, KWHA !!; Protopopivka – N, grove in the valley !!; Petrivske – SE, pine terrace of Siverskyi Donets !!
667	<i>Scutellaria galericulata</i> L.	native	Petrivske – an arm of Siverskyi Donets, 08.08.1980 ( <a href="#">Dubyna, 2006</a> ); Balakliya – W, 2016, KWHA !!
668	<i>Scutellaria hastifolia</i> L. ( <i>Scutellaria dubia</i> Taliev & Sirj.)	native	Protopopivka ( <a href="#">Kotov, 1960</a> )
669	<i>Scutellaria supina</i> L. ( <i>Scutellaria cretica</i> Juz.)	native	near Pyatyhirske, CWU in ( <a href="#">Bezrodnova, 2015</a> ); near Shebelynka – on chalky outcrops, 08.07.1976 ( <a href="#">Zoz, 1978</a> ); Milova – W, chalky slopes, KWHA !!
670	<i>Sideritis montana</i> L.	native	Protopopivka – NW, on chalky outcrops, sub <i>S. comosa</i> non (Rochel ex Benth.) Stank, 2016, KWHA !!
671	<i>Stachys annua</i> (L.) L.	alien	!!
672	<i>Stachys germanica</i> L.	native	Protopopivka – N, Kreydyana Hora, 2016, KWHA !!; Protopopivka – NW, in the gully !!
673	<i>Stachys palustris</i> L.	native	Petrivske – an arm of Siverskyi Donets, 08.08.1980 ( <a href="#">Dubyna, 2006</a> ); Balakliya – E, in the Voloska Balakliyka valley, KWHA !!; Balakliya – in the Serednya Balakliyka valley !!; between Andriyivka and Balakliya – Borysoglibskyi Bir !!; Andriyivka – S, pine terrace of Siverskyi Donets !!; Protopopivka and Petrivske – on the banks of Siverskyi Donets !!
674	<i>Stachys recta</i> L.	native	!!



## Appendix. Continued.

Nr	Taxon	Category	Distribution
675	<i>Stachys sylvatica</i> L.	native	Kreydyanska Dacha !!
676	<i>Teucrium chamaedrys</i> L.	native	!!
677	<i>Teucrium polium</i> L.	native	Milova – SW, 2016, KWHA !!; Bayrak – Khomyn ravine, 2016, KWHA !!; Protopopivka – NW, chalky outcrops, 2016, KWHA !!; Protopopivka – N, on the slopes !!; protected area Protopopivskiyi near Protopopivka (Filatova et al., 2016); Dovgalivka, CWU (Bezrodnova, 2015); near Pyatyhirske, CWU (Bezrodnova, 2015); near Nova Husarivka village, CWU (Bezrodnova, 2015)
678	<i>Thymus calcareus</i> Klokov & Des.-Shost.	native	Milova – W, chalky slopes, 2016, KWHA !!
679	<i>Thymus × dimorphus</i> Klokov & Des.-Shost.	native	Borschivka – S, in the gully, 2016, KWHA !!; Borshchivka, N, 2016, KWHA !!; Protopopivka – NW, chalky outcrops, 2016, KWHA !!
680	<i>Thymus pallasianus</i> Heinr. Braun	native	between Andriyivka and Balakliya – Borysoglibskiyi Bir, 2016, KWHA !!; Kreydyanska Dacha, 2016, KWHA !!; Petrivske – SE, pine terrace of Siverskyi Donets !!
681	<i>Thymus pannonicus</i> All.	native	Balakliya – N part, 2016, KWHA !!; Milova – SW, 2016, KWHA !! (Taliev, 1904); Borschivka – S, in the gully, 2016, KWHA !!; Bayrak – Khomyn ravine, 2016, KWHA !!; Borshchivka – NW, on the slope !!; Protopopivka !!
<b>Lentibulariaceae</b>			
682	<i>Utricularia intermedia</i> Hayne	native	near Andriyivka – Sukhyi Lyman (Kazarinova, 2015)
683	<i>Utricularia minor</i> L.	native	near Andriyivka – Sukhyi Lyman, 25.05.1920, Lavrenko, KW (Lavrenko, 1927, 1973; Kotov, 1960; Chorna, 2006)
684	<i>Utricularia vulgaris</i> L.	native	Izyum State Forestry, Dovge lake, [49.1877°, 36.9421°], 07.1907 (Savenkov, 1910); Izyum State Forestry, Ploske lake, [49.2862°, 36.9557°], 23.07.1907 (Savenkov, 1910); Petrivske – an arm of Siverskyi Donets, 07.08.1980; 08.07.1986 (Dubyna, 2006); Chepil (Kotov, 1960)
<b>Linaceae</b>			
685	<i>Linum austriacum</i> L.	native	Balakliya – N part, 2016, KWHA !!; Milova – SW, 2016, KWHA !!; Protopopivka – NW, chalky outcrops, KWHA !!
	<i>Linum catharticum</i> L.		Grows near the study area: Zmiiv district, near Lyman, leg. Lavrenko (Klokov & Visjulina, 1955)
686	<i>Linum czernjajevii</i> Klokov	native	Protopopivka – NW, chalky outcrops in the gully, 2016, KWHA !!
687	<i>Linum flavum</i> L.	native	Milova – SW, chalky outcrops, 2016, KWHA !!
688	<i>Linum hirsutum</i> L.	native	!!
<b>Lythraceae</b>			
689	<i>Lythrum salicaria</i> L.	native	!!
690	<i>Lythrum virgatum</i> L.	native	Andriyivka – S, 2016, KWHA !!; etc. !!
<b>Malvaceae</b>			
691	<i>Alcea rosea</i> L.	alien	!!
692	<i>Althaea officinalis</i> L.	alien	in the valleys of Siverskyi Donets and its tributaries; Petrivske, Kotov, Karnauch (Olyanitskaya, 1967); Balakliya, 2016, KWHA !!; Borysoglibskiyi Bir !!; Borshchivka – NW, in the Voloska Balakliyka valley !!; Balakliya – W !!
693	<i>Malva thuringiaca</i> (L.) Vis.	native	!!
694	<i>Malva pusilla</i> Sm.	alien	Protopopivka !!

Checklist of the flora of the vicinity of Balakliya (Kharkiv region, Ukraine)

Appendix. Continued.

Nr	Taxon	Category	Distribution
<b>Menyanthaceae</b>			
695	<i>Menyanthes trifoliata</i> L.	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1973)
<b>Moraceae</b>			
696	<i>Morus alba</i> L.	alien	quite often
<b>Nyctaginaceae</b>			
697	<i>Mirabilis nyctaginea</i> (Michx.) MacMill. ( <i>Oxybaphus nyctagineus</i> (Michx.) Sweet)	alien	Balakliya – on the railway track !!
<b>Oleaceae</b>			
698	<i>Fraxinus excelsior</i> L.	native	!!
699	<i>Fraxinus pennsylvanica</i> Marshall	alien	!!
700	<i>Ligustrum vulgare</i> L.	alien	!!
701	<i>Syringa vulgaris</i> L.	alien	widely cultivated; sometimes occurs wildy: Kreydyanska Dacha !!; Balakliya – W, quarter Nr 128 of Borysoglibskiy Bir !!
<b>Onagraceae</b>			
702	<i>Chamerion angustifolium</i> (L.) Holub	native	Kreydyanska Dacha !!; Petrivske – SE, in the pine forest !!
703	<i>Epilobium collinum</i> C.C. Gmel.	native	Verbivka – E, 2016, KWHA !!
704	<i>Epilobium hirsutum</i> L.	native	Balakliya – E, in the Voloska Balakliyka valley, 2016, KWHA !!
705	<i>Epilobium parviflorum</i> Schreb.	native	!!
706	<i>Oenothera biennis</i> L.	alien	Kreydyanska Dacha; Balakliya – along the roads and railways
<b>Orobanchaceae</b>			
707	<i>Euphrasia pectinata</i> Ten.	native	Protopopivka – near Kreydyana Hora, 2016, KWHA !!
708	<i>Melampyrum cristatum</i> L.	native	Milova – W, chalky slopes, 2016, KWHA !!; Protopopivka – N, on the bank of Siverskyi Donets, 2016, KWHA !!
709	<i>Melampyrum nemorosum</i> L.	native	between Balakliya and Andriyivka – Borysoglibskiy Bir, 2016, KWHA !!
710	<i>Odontites vulgaris</i> Moench	native	Verbivka – E, 2016, KWHA !!; Borshchivka – S 2.5 km, in the gully !!; Pryshyb – S, near the cement factory !!
711	<i>Pedicularis dasystachys</i> Schrenk	native	Shebelynka (Kotov, 1960)
712	<i>Pedicularis palustris</i> L.	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1973)
713	<i>Rhinanthus minor</i> L.	native	Borysoglibskiy Bir, near Lebyazhe lake, 2016, KWHA !!; Protopopivka – N !!
<b>Oxalidaceae</b>			
714	<i>Oxalis corniculata</i> L.	alien	Balakliya !!
<b>Papaveraceae</b>			
715	<i>Chelidonium majus</i> L.	native	!!
716	<i>Corydalis solida</i> (L.) Clairv.	native	Balakliya – in the Lyakhova valley !!
717	<i>Fumaria schleicheri</i> Soy.-Will.	alien	!!
718	<i>Fumaria vaillantii</i> Loisel	alien	!!

## Appendix. Continued.

Nr	Taxon	Category	Distribution
719	<i>Glaucium corniculatum</i> (L.) J. Rudolph	alien	Milova !!
720	<i>Papaver orientale</i> L.	alien	Bayrak – W, near the dachas, became wild !!
721	<i>Papaver rhoeas</i> L.	alien	!! Balakliya – ruderal habitats, 2016, KWHA !!
722	<i>Papaver somniferum</i> L.	alien	!!
<b>Plantaginaceae</b>			
723	<i>Callitriche palustris</i> L.	native	in Siverskyi Donets (Kazarinova, 2015)
724	<i>Callitriche stagnalis</i> Scop.	native	Balakliya – in Balakliyka river, 25.08.1979 (Dubyna, 2006)
725	<i>Chaenorhinum minus</i> (L.) Lange	native	Balakliya – on the railway track, 2016, KWHA !!
726	<i>Gratiola officinalis</i> L.	native	Balakliya – W, 2016, KWHA !!; Zavgorodnye – N, on the banks of Siverskyi Donets, 2016, KWHA !!; Andriyivka – S, Borysoglibskyi Bir !!
727	<i>Linaria genistifolia</i> (L.) Mill.	native	Protopopivka – N, Kreydyana Hora, 2016, KWHA !!; Kreydyanska Dacha !!; Milova – SW, chalky slopes !!
728	<i>Linaria odora</i> (M. Bieb.) Fisch.	native	Izyum State Forestry (Kotov, 1965)
729	<i>Linaria vulgaris</i> Mill.	native	!!
730	<i>Plantago indica</i> L. ( <i>Plantago arenaria</i> Waldst. & Kit.)	native	Balakliya – along the railways and roadsides !!; Balakliya – W, sandy steppe !!
731	<i>Plantago lanceolata</i> L.	native	!!
732	<i>Plantago major</i> L.	native	!!
733	<i>Plantago media</i> L.	native	!!
734	<i>Plantago salsa</i> Pall. <i>Plantago tenuiflora</i> Waldst. & Kit.	native	Balakliya, leg. Karzov (Kotov, 1961) grows near the study area: Zmiiv district, near Lyman, leg. Lavrenko (Kotov, 1961)
735	<i>Plantago urvillei</i> Opiz	native	Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!; Bayrak – W, Khomyn ravine, 2016, KWHA !!
736	<i>Veronica anagallis-aquatica</i> L.	native	Balakliya, 2016, KWHA !!; etc.
737	<i>Veronica anagalloides</i> Guss.	native	between Balakliya and Andriyivka – Borysoglibskyi Bir, 2016, KWHA !!
738	<i>Veronica arvensis</i> L.	alien	Balakliya – W, 2016, KWHA !!
739	<i>Veronica austriaca</i> L. subsp. <i>dentata</i> (F.W. Schmidt) Watzl	native	Borschivka – S, in the gully, 2016, KWHA !!; Milova – SW, chalky slopes, 2016, KWHA !!; Bayrak – W 4 km, Khomyn ravine !!
740	<i>Veronica austriaca</i> subsp. <i>jacquinii</i> (Baumg.) Watzl	native	!!
741	<i>Veronica barrelieri</i> H. Schott ex Roem. & Schult.	native	Milova – SW, 2016, KWHA !!
742	<i>Veronica beccabunga</i> L.	native	Balakliya – in Balakliyka, 25.08.1979 (Dubyna, 2006)
743	<i>Veronica chamaedrys</i> L.	native	!!
744	<i>Veronica dillenii</i> Crantz	native	!!
745	<i>Veronica incana</i> L.	native	Kreydyanska Dacha, 2016, KWHA !!; between Andriyivka and Balakliya – Borysoglibskyi Bir !!
746	<i>Veronica longifolia</i> L.	native	Protopopivka – N, on the banks of Siverskyi Donets, 2016, KWHA !!; Balakliya – W, on the sandy area !!; Petrivske – SE, pine terrace of Siverskyi Donets !!

## Appendix. Continued.

Nr	Taxon	Category	Distribution
747	<i>Veronica officinalis</i> L.	native	Kreydyanska Dacha !!; between Andriyivka and Balakliya – Borysoglibskiy Bir !!
748	<i>Veronica persica</i> Poir.	alien	!!
749	<i>Veronica praecox</i> All.	native	!!
750	<i>Veronica prostrata</i> L.	native	Balakliya – E part, along the roads !!; Kreydyanska Dacha !!; Bayrak – W 4 km, Khomyn ravine !!
751	<i>Veronica scutellata</i> L.	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1973); Balakliya – E, in the Voloska Balakliyka valley, 2016, KWHA !!
752	<i>Veronica spicata</i> L.	native	Kreydyanska Dacha, 2016, KWHA !!; Milova – SW, 2016, KWHA !!; Bayrak – E !!
753	<i>Veronica spuria</i> L.	native	!!
754	<i>Veronica teucrium</i> L.	native	Milova – SW, 2016, KWHA !!
<b>Plumbaginaceae</b>			
755	<i>Limonium bungei</i> (Claus) Gamajun. ( <i>Limonium membranaceum</i> Klokov)	native	Balakliya – W, sandy steppe, 2016, KWHA !!; near Volokhiv Yar, Chuhuiv district (Kotov, 1952)
<b>Polygalaceae</b>			
756	<i>Polygala comosa</i> Schkuhr (incl. <i>Polygala podolica</i> DC.)	native	Milova – W, chalky slopes, 2016, KWHA !!
757	<i>Polygala sibirica</i> L.	native	Milova – SW, 2016, KWHA !!; Protopopivka – NW, chalky outcrops, 2016, KWHA !!
<b>Polygonaceae</b>			
758	<i>Bistorta officinalis</i> Delarbre ( <i>Persicaria bistorta</i> (L.) Samp.)	native	Savyntsi – in Siverskyi Donets, 03.08.2011 (Kazarinova, 2015)
759	<i>Fagopyrum esculentum</i> Moench	alien	!!
760	<i>Fallopia convolvulus</i> (L.) A. Löve	alien	!!
761	<i>Fallopia dumetorum</i> (L.) Holub	native	!!
762	<i>Persicaria amphibia</i> (L.) Delarbre	native	Petrivske – an arm of Siverskyi Donets, 08.1980 (Dubyna, 2006); Savyntsi – in Siverskyi Donets, 03.06.1980 (Dubyna, 2006)
763	<i>Persicaria hydropiper</i> (L.) Delarbre	native	!!
764	<i>Persicaria lapathifolia</i> (L.) Delarbre	native	!!
765	<i>Persicaria maculosa</i> S.F. Gray	native	!!
766	<i>Polygonum arenarium</i> Waldst. & Kit.	native	Kreydyanska Dacha, 2016, KWHA !!; Andriyivka – S, Borysoglibskiy Bir !!; Balakliya – W, quarter Nr 128 of Borysoglibskiy Bir !!; Petrivske – SE, pine terrace of Siverskyi Donets !!
767	<i>Polygonum aviculare</i> L.	native	!!
768	<i>Polygonum calcatum</i> Lindm.	alien	Balakliya – near the train station and on the sidewalks !!
769	<i>Polygonum neglectum</i> Besser	native	!!
770	<i>Rumex acetosella</i> L.	native	Kreydyanska Dacha, 2016, KWHA !!; Balakliya – W, Borysoglibskiy Bir !!
771	<i>Rumex confertus</i> Willd.	native	!!
772	<i>Rumex crispus</i> L.	native	!!
773	<i>Rumex hydrolapathum</i> Huds.	native	!!



## Appendix. Continued.

Nr	Taxon	Category	Distribution
774	<i>Rumex maritimus</i> L.	native	Balakliya, 2016, KWHA !!
775	<i>Rumex obtusifolius</i> L. subsp. <i>sylvestris</i> (Lam.) Čelak.	native	!!
776	<i>Rumex patientia</i> L.	alien	!!
777	<i>Rumex thyrsoflorus</i> Fingerh.	native	Kreydyanska Dacha, 2016, KWHA !!; Borysoglibskyyi Bir !!; Balakliya – W, sandy steppe !!; Petrivske – SE, pine terrace of Siverskyi Donets !!
<b>Portulacaceae</b>			
778	<i>Portulaca oleracea</i> L.	alien	!!
<b>Primulaceae</b>			
779	<i>Anagallis arvensis</i> L.	alien	!!
780	<i>Androsace elongata</i> L.	native	2016, KWHA !!
	<i>Androsace villosa</i> L. subsp. <i>koso-poljanskii</i> (Ovcz.) Fed.	n.conf.	it is included to the list of rare species for Landscape Park Izyumska Luka (Onyshchenko et al., 2016) – obviously, this is a mistake
781	<i>Hottonia palustris</i> L.	native	!!
	<i>Lysimachia minima</i> (L.) U. Manns & Anderb. ( <i>Centunculus minimus</i> L.)		grows near the study area: Zmiiv district, near Lyman lake, leg. Lavrenko (Kotov & Barbarych, 1957)
782	<i>Lysimachia nummularia</i> L.	native	!!
783	<i>Lysimachia thyrsoflora</i> L.	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1973)
784	<i>Lysimachia vulgaris</i> L.	native	Petrivske – an arm of Siverskyi Donets, 07.08.1980 (Dubyna, 2006); on the banks of Siverskyi Donets !!; Kreydyanska Dacha !!
785	<i>Naumburgia thyrsoflora</i> (L.) Rchb.	native	in the Siverskyi Donets valley (Kazarinova, 2015)
<b>Ranunculaceae</b>			
786	<i>Adonis vernalis</i> L.	native	Milova – SW, 1948, Tzvelev, LE (Melnyk & Parubok, 2004); Milova, meadow steppe on the northern slope, 2016, KWHA !!; Pyatyhirske – in the gully Velyka Shebelynka, 1939, CWU (Melnyk & Parubok, 2004); Protopopivka – NW, on the chalky outcrops, 2016, KWHA !!
787	<i>Adonis volgensis</i> Steven ex DC.	native	breeding farm Pyatigorsk, CWU (Melnik et al., 2007)
788	<i>Anemone ranunculoides</i> L.	native	Bayrak – E, in the oak forest !!; between Balakliya and Bayrak – in the grove on the banks of Siverskyi Donets !!
789	<i>Anemone sylvestris</i> L.	native	Milova – SW, 2016, KWHA !!
790	<i>Batrachium circinatum</i> Sibth.	native	Balakliya – in Balakliyka, 25.08.1979 (Dubyna, 2006); Balakliya (Kazarinova, 2015); Balakliya – E, in Voloska Balakliyka !!; Balakliya – SW, in the Lyakhova valley !!
791	<i>Caltha palustris</i> L.	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1973); Kreydyanska Dacha – on the forest swamp !!; Balakliya – E, in the valley !!; between Balakliya and Andriyivka, the valley of Siverskyi Donets (Kazarinova, 2015)
792	<i>Ceratocephala testiculata</i> (Crantz) Bess.	native	!!
793	<i>Clematis integrifolia</i> L.	native	Milova – W, meadow steppe on the northern slope, 2016, KWHA !!
794	<i>Delphinium ajacis</i> L. ( <i>Consolida orientalis</i> (J. Gay ex Gren. & Godr.) Schroedinger)	alien	!!

Appendix. Continued.

Nr	Taxon	Category	Distribution
795	<i>Delphinium consolida</i> L. ( <i>Consolida regalis</i> S.F. Gray subsp. <i>paniculata</i> (Host) Soó)	native	!! Balakliya, 2016, KWHA !!; Borschivka – S, in the gully, 2016, KWHA !!; Milova – SW !!; Borshchivka – NW !!
796	<i>Delphinium cuneatum</i> Steven ex DC.	native	without specified location (Gorelova & Alekhin, 2002)
797	<i>Ficaria verna</i> Huds.	native	Balakliya – in Lyakhova valley, 2016, KWHA !!; etc. !!
798	<i>Pulsatilla pratensis</i> (L.) Mill.	native	between Andriyivka and Balaklyya – Borysoglibskiy Bir !! Kreydyanska Dacha, 2016, KWHA !!
799	<i>Ranunculus acris</i> L.	native	floodplain of Siverskyi Donets !!
800	<i>Ranunculus illyricus</i> L.	native	Bayrak – W, Khomyn ravine, 2016, KWHA !!; Borshchivka – S 2.5 km, in the gully !!
801	<i>Ranunculus lingua</i> L.	native	Izyum State Forestry, Rogozuvate lakes (Savenkov, 1910); in Siverskyi Donets (Kazarinova, 2015)
802	<i>Ranunculus pedatus</i> Waldst. & Kit.	native	in the valleys of Siverskyi Donets and its tributaries !!; Balakliya, 2016, KWHA !!
803	<i>Ranunculus polyanthemos</i> L.	native	!!
804	<i>Ranunculus repens</i> L.	native	!!
805	<i>Ranunculus sceleratus</i> L.	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1973); Bayrak – W, in the swampy depression !!; Balakliya – in Lyakhova near Balakliyska Hora (leg. O. Shynder, det. G.A. Chorna) !!
806	<i>Thalictrum flavum</i> L.	native	Balakliya – W, 2016, KWHA !!; Milova – SW, 2016, KWHA !!; Zavgorodnye – N, in the Siverskyi Donets valley, 2016, KWHA !!; Bayrak – W, Khomyn ravine, 2016, KWHA !!; Balakliya – in the valley !!
807	<i>Thalictrum lucidum</i> L.	native	Balakliya – E, in the Voloska Balakliyka valley, 2016, KWHA !!
808	<i>Thalictrum minus</i> L.	native	Milova – W, chalky slopes, 2016, KWHA !!; Kreydyanska Dacha !!; etc. !!
809	<i>Thalictrum simplex</i> L.	native	Milova – SW, 2016, KWHA !!
<b>Resedaceae</b>			
810	<i>Reseda lutea</i> L.	alien	Milova – on a dump of the chalk quarry, 2016, KWHA !!; etc. !!
<b>Rhamnaceae</b>			
811	<i>Frangula alnus</i> Mill.	native	Andriyivka – S, in the valley of Siverskyi Donets, 2016, KWHA !!; Petrivske – SE, in the pine forest !!; Protopopivka – N, grove in the valley near Kreydyana Hora, 2016, KWHA !!
812	<i>Rhamnus cathartica</i> L.	native	!!
<b>Rosaceae</b>			
813	<i>Agrimonia eupatoria</i> L. subsp. <i>eupatoria</i>	native	!!
814	<i>Agrimonia eupatoria</i> subsp. <i>grandis</i> (C.A. Mey.) Bornm.	native	!!
815	<i>Amelanchier spicata</i> (Lam.) K. Koch	alien	Balakliya – W, Borysoglibskiy Bir, 2016, KWHA !!
816	<i>Comarum palustre</i> L.	native	near Andriyivka – Sukhyi Lyman, 2–3 individuals (Lavrenko, 1973)
817	<i>Cotoneaster acutifolius</i> Turcz. ( <i>Cotoneaster lucidus</i> Schltld.)	alien	Kreydyanska Dacha, 2016, KWHA !!; Sezonna station – S, Vysokobirske forestry !!
818	<i>Crataegus</i> cf. <i>chrysocarpa</i> Ashe ( <i>Crataegus coccynea</i> group)	alien	Balakliya – in the Serednya Balakliyka valley, 2016, KWHA !!

## Appendix. Continued.

Nr	Taxon	Category	Distribution
819	<i>Crataegus</i> × <i>kyrtostyla</i> Fingerh. ex Schltld.	native	Kreydyanska Dacha, 2016, KWHA !!; Protopopivka – N, on the bank of Siverskyi Donets, 2016, KWHA !!
820	<i>Crataegus monogyna</i> Jacq.	native	Balakliya – in the Serednya Balakliyka valley, 2016, KWHA !!; Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!
821	<i>Crataegus rhipidophylla</i> Gand.	native	Kreydyanska Dacha, 2016, KWHA !!
822	<i>Crataegus ucrainica</i> Pojark.	native	Kreydyanska Dacha, leg. N.B. Saidakhmedova !!
823	<i>Filipendula vulgaris</i> Moench	native	Kreydyanska Dacha !!; Bayrak – W, Khomyn ravine !!; Borysoglibskyi Bir – in the Siverskyi Donets valley !!
824	<i>Fragaria vesca</i> L.	native	Kreydyanska Dacha !!; Borysoglibskyi Bir !!
825	<i>Fragaria viridis</i> Duchesne subsp. <i>viridis</i>	native	!!
826	<i>Fragaria viridis</i> subsp. <i>campestris</i> (Steven) Pawl.	native	!!
827	<i>Geum rivale</i> L.	native	Borysoglibskyi Bir !!
828	<i>Geum urbanum</i> L.	native	!!
829	<i>Malus domestica</i> Borkh.	alien	!!
830	<i>Malus sylvestris</i> Mill.	native	!!
831	<i>Potentilla anserina</i> L.	native	!!
832	<i>Potentilla argentea</i> L.	native	!!
833	<i>Potentilla incana</i> P. Gaertn., B. Mey. & Scherb. ( <i>Potentilla arenaria</i> Borkh.)	native	Kreydyanska Dacha, 2016, KWHA !!; Petrivske – SE, pine terrace of Siverskyi Donets !!; Borysoglibskyi Bir !!
834	<i>Potentilla neglecta</i> Baumg. ( <i>Potentilla impolita</i> Wahlenb.)	native	!!
835	<i>Potentilla patula</i> Waldst. & Kit. ( <i>Potentilla schurii</i> Fuss ex Zimmeter)	native	Milova – SW, 2016, KWHA !!
836	<i>Potentilla recta</i> L. subsp. <i>recta</i>	native	Borshchivka – N, on the steppe slope !!
837	<i>Potentilla recta</i> subsp. <i>obscura</i> (Willd.) Arcangeli	native	Bayrak, 2016, KWHA !!; Protopopivka – N, Kreydyana Hora !!; Milova, sub <i>P. recta</i> (Talieva, 1904)
838	<i>Potentilla recta</i> subsp. <i>pilosa</i> (Willd.) Rechb. f. ex Rothm. ( <i>Potentilla pilosa</i> Willd.)	native	Milova – SW, 2016, KWHA !!
839	<i>Potentilla reptans</i> L.	native	!!
840	<i>Potentilla supina</i> L.	native	!!
841	<i>Prunus armeniaca</i> L. ( <i>Armeniaca vulgaris</i> Lam.)	alien	!!
842	<i>Prunus cerasifera</i> Ehrh.	alien	!!
843	<i>Prunus cerasus</i> L. ( <i>Cerasus vulgaris</i> Mill.)	alien	Kreydyanska Dacha – became wild !!; Bayrak – W, in the forest plantations, became wild !!
844	<i>Prunus domestica</i> L.	alien	!!
845	<i>Prunus fruticosa</i> Pall. ( <i>Cerasus fruticosa</i> (Pall.) Woronow)	native	Pyatyhirske – SE, grove in the gully, 2016, KWHA !!; Protopopivka – N, Kreydyana Hora, 2016, KWHA !!
846	<i>Prunus insititia</i> L.	alien	Borshchivka – SW 2 km, pine plantation, 2016, KWHA !!; Kreydyanska Dacha !!; Milova – SW, chalky slopes !!

Checklist of the flora of the vicinity of Balakliya (Kharkiv region, Ukraine)

Appendix. Continued.

Nr	Taxon	Category	Distribution
847	<i>Prunus mahaleb</i> L. ( <i>Cerasus mahaleb</i> (L.) Mill.)	alien	Protopopivka – NW, on the cretaceous outcrops in the gully, became wild, 2016, KWHA !!; Kreydyanska Dacha, 2016, KWHA !!; Borysoglibskyi Bir !!
848	<i>Prunus padus</i> L. ( <i>Padus avium</i> Mill.)	native	Kreydyanska Dacha, 2016, KWHA !!; Borysoglibskyi Bir !!
849	<i>Prunus serotina</i> Ehrh. ( <i>Padus serotina</i> (Ehrh.) Ag.)	alien	in the forest plantations, and became wild: Protopopivka – NW, 2016, KWHA !!; Borshchivka – NW !!; Sezonna station – S, Borysoglibskyi Bir !!; Balakliya – W, quarter Nr 128 of Borysoglibskyi Bir !!
850	<i>Prunus spinosa</i> L. subsp. <i>dasyphylla</i> (Schur) Domin	native	!!
851	<i>Prunus tenella</i> Batsch ( <i>Amygdalus nana</i> L.)	native	!!
852	<i>Prunus tomentosa</i> Thunb. ( <i>Cerasus tomentosa</i> (Thunb.) Masam. & S. Suzuki)	alien	Kreydyanska Dacha – became wild !!
853	<i>Pyrus communis</i> L.	alien	!!
854	<i>Pyrus pyraister</i> (L.) Burgsd.	native	!!
855	<i>Rosa</i> × <i>andegavensis</i> Bastard	native	!!
856	<i>Rosa canina</i> L.	native	!!
857	<i>Rosa corymbifera</i> Borkh.	native	Balakliya – N, military base, 2016, KWHA !!; E, 2016, KWHA !!; etc. !!
858	<i>Rosa majalis</i> Herrm.	native	Kreydyanska Dacha, 2016, KWHA !!
859	<i>Rosa rubiginosa</i> L.	native	Balakliya – W, in the pine forest, 2016, KWHA !!; Milova – SW, 2016, KWHA !!
860	<i>Rosa tomentosa</i> Sm.	native	Balakliya – on the roadside, 2016, KWHA !!; Milova – SW, 2016, KWHA !!; Protopopivka – on the slope above Kreydyana Hora, 2016, KWHA !!; Bayrak – W 4 km, Khomyn ravine, 2016, KWHA !!
861	<i>Rosa villosa</i> L.	native	Milova – SW, 2016, KWHA !!; Petrivske !!
862	<i>Rubus caesius</i> L.	native	!!
863	<i>Rubus idaeus</i> L.	alien	Kreydyanska Dacha, 2016, KWHA !!
864	<i>Sanguisorba minor</i> Scop. subsp. <i>minor</i> ( <i>Poterium sanguisorba</i> L.)	alien	Protopopivka – N, Kreydyana Hora !!
865	<i>Sanguisorba minor</i> subsp. <i>balearica</i> (Bourg. ex Nyman) Muñoz Garm. & C. Navarro ( <i>Poterium polygamum</i> Waldst. & Kit.)	native	Balakliya – SW, on the edge of the pine forest near the swamp !!
866	<i>Sanguisorba officinalis</i> L.	native	Bayrak – N, meadow in the Siverskyi Donets valley, 2016, KWHA !!; Kreydyanska Dacha !!; Petrivske – SE, in the Siverskyi Donets valley !!
867	<i>Sorbus aucuparia</i> L.	native	Kreydyanska Dacha; Borysoglibskyi Bir
868	<i>Spiraea crenata</i> L.	native	Balakliya – W, on the sandy area, 2016, KWHA !!; Borshchivka – S, in the gully, 2016, KWHA !!; Bayrak – W, on the right bank of Siverskyi Donets !!
<b>Rubiaceae</b>			
869	<i>Asperula cynanchica</i> L.	native	!!



## Appendix. Continued.

Nr	Taxon	Category	Distribution
870	<i>Asperula graveolens</i> M. Bieb. ex Schult. & Schult. f.	native	between Balakliya and Andriyivka – Borysoglibskiy Bir, 2016, KWHA !!
871	<i>Galium aparine</i> L.	native	!!
872	<i>Galium humifusum</i> M. Bieb.	native	Milova – SW, 2016, KWHA !!; etc. !!
873	<i>Galium mollugo</i> L.	native	Protopopivka – N, on the bank of Siverskyi Donets, 2016, KWHA !!
874	<i>Galium octonarium</i> (Klokov) Pobed.	native	Milova – W, chalky slopes, 2016, KWHA !!; Borshchivka – N, 2016, KWHA !!
875	<i>Galium palustre</i> L.	native	near Andriyivka – Sukhyi Lyman (Lavrenko, 1973); Petrivske – an arm of Siverskyi Donets, 08.1980 (Dubyna, 2006); Balakliya – in the Srednya Balakliyka valley, 2016, KWHA !!; Kreydyanska Dacha, 2016, KWHA !!; Borshchivka – the valley of Voloska Balakliyka, 2016, KWHA !!
876	<i>Galium rivale</i> (Sibth. & Smith) Griseb.	native	Pyatyhirske – S, in the grove, 2016, KWHA !!
877	<i>Galium rubioides</i> L. s. l. ( <i>Galium physocarpum</i> Ledeb.)	native	Balakliya, 2016, KWHA !!; Milova – SW, 2016, KWHA !!; Bayrak – the valley of Siverskyi Donets, 2016, KWHA !!; Kreydyanska Dacha !!
878	<i>Galium ruthenicum</i> Willd.	native	Protopopivka !!; Balakliya !!
879	<i>Galium tinctorium</i> (L.) Scop.	native	Borshchivka – NW, 2016, KWHA !!; Bayrak – W, Khomyn ravine, 2016, KWHA !!; Milova – SW, chalky slopes !!
880	<i>Galium verum</i> L.	native	!!
	<i>Galium album</i> × <i>G. ruthenicum</i>	nat.h.	Zavgorodnye – N, on the banks of Siverskyi Donets, 2016, KWHA !!
<b>Rutaceae</b>			
881	<i>Ptelea trifoliata</i> L.	alien	Bayrak – W, near Khomyn ravine, became wild, 2016, KWHA !!
<b>Salicaceae</b>			
882	<i>Populus alba</i> L.	native	!!
883	<i>Populus</i> × <i>canadensis</i> Moench	alien	in the forest plantations and became wild: Borschivka – S, in the gully, 2016, KWHA !!; forest plantation in the Siverskyi Donets valley (Tkach, 1999)
884	<i>Populus nigra</i> L.	native	in the floodplain of Siverskyi Donets (Tkach, 1999); valleys !!
885	<i>Populus tremula</i> L.	native	!!
886	<i>Salix acutifolia</i> Willd.	native	Balakliya – W, near Lyakhove lake, 2016, KWHA !!; Balakliya – W, quarter Nr 128 of Borysoglibskiy Bir !!; Petrivske – SE, pine terrace of Siverskyi Donets !!
887	<i>Salix alba</i> L.	native	!!
888	<i>Salix aurita</i> L.	native	Andriyivka – S, on the bank of Siverskyi Donets !!
889	<i>Salix caprea</i> L.	native	!!
890	<i>Salix cinerea</i> L.	native	Balakliya, 2016, KWHA !!
891	<i>Salix fragilis</i> L.	alien	!!
892	<i>Salix pentandra</i> L.	native	Andriyivka – S, on the banks of Siverskyi Donets, 2016, KWHA !!; etc. !!
893	<i>Salix rosmarinifolia</i> L.	native	between Balakliya and Andriyivka – on the bank of Siverskyi Donets, 2016, KWHA !!
894	<i>Salix triandra</i> L.	native	Balakliya – E, in the Voloska Balakliyka valley, 2016, KWHA !!; etc. !!

Checklist of the flora of the vicinity of Balakliya (Kharkiv region, Ukraine)

Appendix. Continued.

Nr	Taxon	Category	Distribution
<b>Santalaceae</b>			
895	<i>Thesium linophyllum</i> L. ( <i>Thesium arvense</i> Horv.)	native	Milova – SW, 2016, KWHA !!; Borshchivka – N, 2016, KWHA !!; Bayrak – Khomyn ravine, 2016, KWHA !!
896	<i>Viscum album</i> L.	native	!!
<b>Sapindaceae</b>			
897	<i>Aesculus hippocastanum</i> L.	alien	spontaneously, young individuals !!
<b>Scrophulariaceae</b>			
898	<i>Scrophularia nodosa</i> L.	native	Kreydyanska Dacha, 2016, KWHA !!
899	<i>Verbascum chaixii</i> Vill. subsp. <i>austriacum</i> (Roem. & Schult.) Hayek	native	Borshchivka – N, 2016, KWHA !!; Milova – SW, chalky slopes !!
900	<i>Verbascum lychnitis</i> L.	native	Borshchivka – N, 2016, KWHA !!
901	<i>Verbascum phlomoides</i> L.	native	Balakliya, 2016, KWHA !!; Kreydyanska Dacha !!; Protopopivka – N and NW !!; Petrivske !!
902	<i>Verbascum phoeniceum</i> L.	native	Borshchivka – S 2.5 km, in the gully, 2016, KWHA !!; Petrivske – SE !!
<b>Solanaceae</b>			
903	<i>Alkekengi officinarum</i> Moench ( <i>Physalis alkekengi</i> L.)	alien	Protopopivka – NW, forest plantation, 2016, KWHA !!
904	<i>Datura stramonium</i> L.	alien	!!
905	<i>Hyoscyamus niger</i> L.	alien	Bayrak – W 4 km, Khomyn ravine !!
906	<i>Lycium barbarum</i> L.	alien	!!
907	<i>Solanum dulcamara</i> L.	native	Donets – in Zymnye lake, 09.06.2012 (Kazarinova, 2015); Savyntsi – in Siverskyi Donets, 03.08.2011 (Kazarinova, 2015); Kreydyanska Dacha !!; etc. !!
908	<i>Solanum nigrum</i> L.	alien	!!
<b>Tiliaceae</b>			
909	<i>Tilia cordata</i> Mill.	native	Protopopivka – N, in the oak forest, 2016, KWHA !!; etc. !!
<b>Ulmaceae</b>			
910	<i>Ulmus glabra</i> Huds.	native	Balakliya – W, on the sandy area !!; Protopopivka – N, grove in the Siverskyi Donets valley; Petrivske – SE, in the pine forest !!
911	<i>Ulmus laevis</i> Pall.	native	floodplain forests in Siverskyi Donets valley, north of Balakliya (Tkachenko, 1971); Kreydyanska Dacha 2016, KWHA !!; Petrivske – SE, in the pine forest !!
912	<i>Ulmus minor</i> Mill.	native	!!
913	<i>Ulmus pumila</i> L.	alien	the first specimens were planted about 40 years ago along the streets of Balakliya and in some forests; in the last decade, there was a massive seed propagation: Balakliya – in the park, spontaneously, 2016, KWHA !! Sezonna station – SW, in Borysoglibskyi Bir !!; Sezonna station – on the territory of the cement factory !!
<b>Urticaceae</b>			
914	<i>Urtica dioica</i> L. subsp. <i>dioica</i>	native	!!
915	<i>Urtica dioica</i> subsp. <i>pubescens</i> (Ledeb.) Domin ( <i>Urtica galeopsifolia</i> Wierzb. ex Opiz)	native	Izyum State Forestry (Kotov, 1965)
916	<i>Urtica urens</i> L.	alien	Protopopivka !!

## Appendix. Continued.

Nr	Taxon	Category	Distribution
<b>Verbenaceae</b>			
917	<i>Verbena officinalis</i> L.	alien	!!
<b>Viburnaceae</b>			
918	<i>Sambucus nigra</i> L.	native	!!
919	<i>Sambucus racemosa</i> L.	alien	Borshchivka – S, pine plantation, 2016, KWHA !!; Milova – W, on chalky slopes, 2016, KWHA !!; Kreydyanska Dacha !!
920	<i>Viburnum opulus</i> L.	native	Balakliya – in the Serednya Balakliyka valley, 2016, KWHA !!; Protopopivka – N, in the oak forest, 2016, KWHA !!; Andriyivka – S, in the Siverskyi Donets valley !!; Balakliya – W, in the groves and wet depressions on sandy area !!
<b>Violaceae</b>			
921	<i>Viola ambigua</i> Waldst. & Kit.	native	Protopopivka – NW, in the gully, 2016, KWHA !!
922	<i>Viola arvensis</i> Murray	alien	Balakliya – on the railway track, 2016, KWHA !!; etc. !!
923	<i>Viola elatior</i> Fr. ( <i>Viola montana</i> L.)	native	Kreydyanska Dacha, 2016, KWHA !!; Balakliya – W, in the grove, 2016, KWHA !!
924	<i>Viola hirta</i> L.	native	!!
925	<i>Viola hymettia</i> Boiss. & Heldr. ( <i>Viola lavrenkoana</i> Klokov)	native	Balakliya, sub <i>V. cretacea</i> Klokov (Klokov & Visjulina, 1955); Kreydyanska Dacha, abundantly, 2016, KWHA !!; between Andriyivka and Balakliya – Borysglibskyi Bir !!
926	<i>Viola mirabilis</i> L.	native	Kreydyanska Dacha, KWHA !!; Bayrak – E, in the oak forest !!; Protopopivka – N, in the oak forest near Kreydyana Hora !!
927	<i>Viola odorata</i> L.	native	Izyum State Forestry (Kotov, 1965)
928	<i>Viola suavis</i> M. Bieb.	native	Bayrak – E, in the oak forest !!; Protopopivka – N, in the oak forest near Kreydyana Hora !!
929	<i>Viola tanaitica</i> Grosset	native	Balakliya – W, in the grove
930	<i>Viola tricolor</i> L. subsp. <i>matutina</i> (Klokov) Valentine	native	!!
<b>Vitaceae</b>			
931	<i>Parthenocissus vitacea</i> (Knerr) Hitchc.	alien	Kreydyanska Dacha !!
932	<i>Vitis vulpina</i> L.	alien	Balakliya – W, quarter Nr 128 of Borysglibskyi Bir, 2016, KWHA !!; Kreydyanska Dacha, 2016, KWHA !!; Balakliya – occasionally in ruderal habitats !!
<b>Zygophyllaceae</b>			
933	<i>Tribulus terrestris</i> L.	alien	Andriyivka – S, meadow between Polovnyche and Lebyazhe lakes, 2016, KWHA !!

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## Чеклист флори околиць м. Балаклії (Харківська область, Україна): аборигенні та чужорідні таксони, поширення рідкісних рослин, нові знахідки

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Вперше узагальнено відомості про флору басейну Сіверського Дінця в околицях м. Балаклія (Харківська область) на підставі всебічного аналізу літературних джерел, гербарних зборів та власних польових досліджень. Польові дослідження проводили у вересні 2015 р. та у березні-липні 2016 р.

Конспект флори включає 933 таксони судинних рослин зафіксованих у цьому районі, в тому числі 798 таксонів виявлених безпосередньо в ході польових досліджень. Зокрема, серед них виявлено 739 аборигенних і 194 чужорідних таксони. Підтверджено місцезростання 14 видів, занесених до Червоної книги України. Наведено місцезнаходження охоронюваних, малопоширених і нових для флори регіону видів рослин. Кілька видів, насамперед із групи кальцефітів (наприклад, *Astragalus albicaulis*, *Linum czernjajevii*, *Odontarrhena tortuosa* subsp. *cretacea*, *Scutellaria supina* та *Silene supina*), було виявлено за межами їх відомих ареалів. Виявлені місцезростання деяких інших видів (наприклад, *Ephedra distachya*, *Onosma simplicissima* та *Ornithogalum boucheanum*) значно доповнюють існуючі хорологічні дані для регіону. Також, наведено відомості про нові знахідки адвентивних видів (наприклад, *Cornus sanguinea* subsp. *australis*, *Fraxinus pennsylvanica*, *Sedum sexangulare*, *Ulmus pumila* та *Vitis vulpina*), які перебувають на стадії експансії.

Загалом, встановлено, що флора басейну Сіверського Дінця в околицях Балаклії є багатим природним центром флористичного різноманіття. Нині у районі дослідження відбуваються активні процеси адвентизації флори та заселення інвазійними видами рослин. Значну роль у розповсюдженні адвентивних рослин відіграють лісомеліоративні насадження, а міграційними коридорами для багатьох таких видів слугують залізниця і борова тераса Сіверського Дінця.

**Ключові слова:** флора, Сіверський Донець, нові локалітети, адвентивні види рослин, рідкісні види рослин