



The Campus Flora of Bingöl University (Bingöl/Türkiye)

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Abstract: This study was carried out to identify and document the diversity of seed plants in Bingöl University campus area. As a result of the study, a total of 200 taxa, representing 150 genera and 53 families, were identified within the campus. Among these, 103 taxa grow naturally on the campus, while 97 taxa are utilized for landscaping purposes. The identified flora includes 76 taxa of trees and shrubs, 59 annual herbaceous plants, and 65 perennial herbaceous species. The most represented family is Fabaceae, comprising 28 taxa, followed by Rosaceae (22 taxa), Asteraceae (12 taxa), Lamiaceae (9 taxa), and Brassicaceae (9 taxa). A total of four endemic taxa (*Arum rupicola* var. *rupicola*, *Centaurea fenzlii*, *Iris sari* ve *Verbascum diversifolium*) were identified in the research area, which are naturally distributed or used for landscaping purposes.

Bingöl Üniversitesi Kampüs Florası (Bingöl/Türkiye)

**Anahtar
 Kelimeler**
 Flora,
 Bitki
 Çeşitliliği,
 Bingöl
 Üniversitesi,
 Kampüs
 Alanı

Öz: Bu çalışma, Bingöl Üniversitesi kampüs alanında bulunan tohumlu bitki çeşitliliğini ortaya koymak ve kayıt altına almak amacıyla yapılmıştır. Çalışma sonucunda kampüs içerisinde 53 familyaya ait 200 takson (150 cins) tespit edilmiştir. Bu taksonlardan 103'ü kampüs alanında doğal olarak yayılış gösterirken, 97'si peyzaj düzenlemelerinde süs bitkisi olarak kullanılmıştır. Belirlenen bitkilerden 76'sı ağaç veya çalı, 59'u tek yıllık otsu bitki ve geri kalan 65'i çok yıllık otsulardır. Kampüs florasında en fazla taksona sahip familya 28 takson ile Fabaceae olup, onu sırasıyla Rosaceae (22 takson), Asteraceae (12 takson), Lamiaceae (9 takson) ve Brassicaceae (9 takson) takip etmektedir. Alanda doğal olarak yayılış gösteren veya peyzaj amaçlı kullanılan toplam dört adet endemik takson (*Arum rupicola* var. *rupicola*, *Centaurea fenzlii*, *Iris sari* ve *Verbascum diversifolium*) tespit edilmiştir.

1. INTRODUCTION

Turkey has one of the most advantageous locations in the world in terms of plant diversity. However, urbanization and infrastructural development cause habitat fragmentation, destruction of natural habitats, and loss of biodiversity [1]. Within the habitat fragmentation caused by urbanization, university campuses partially protect the habitat of the region in which they are located, representing the plant diversity of the region and providing an opportunity for the protection of the regional flora by acting as a shelter for these plants [2]. These areas also serve as natural application laboratories for departments in the field of natural sciences [3]. However, especially in newly established universities, factors such as construction, landscaping activities, and the spread of

invasive species threaten the plant diversity in these areas [3,4]. Several universities have carried out flora studies to determine the plant biodiversity within their campus and analyse these effects [1,3–15].

Bingöl University campus is situated in the center of Bingöl Province, at 38°53' north latitude and 40°29' east longitude. The campus is 1,163 meters above sea level. Bingöl University was officially established in 2007 with 3 faculties, 1 school, 2 vocational schools and 2 institutes and has continued to develop and grow since its foundation. It continues to engage in educational, training, and research activities, with a current facilities comprising 10 faculties, 1 school, 5 institutes, 6 vocational schools, 21 research centers, and 1 central research laboratory [16]. As a result of this development, the campus area has been

expanded over the years and construction activities has increased. Concurrent landscaping attempts associated with this growth have the potential to influence and modify the natural flora [2]. Therefore, before the natural flora is further damaged, it is crucial to reveal the floral composition in the campus area. Hence, it will be possible to observe the effects of construction and landscaping activities on natural flora.

The research area is in the Bingöl province, which is in the B8 square of Davis's grid system and is a part of the Irano-Turanian phytogeographic region. According to the recent studies, the number of plant species recorded in the region has exceeded 2,000 [17–26]. In Bingöl province, summers are hot and dry, winters are cold and covered in snow. The average annual temperature is around 12.1 °C. Precipitation in Bingöl is relatively high for the region, averaging 935 mm per year, and is mostly accumulated in the winter months [27]. According to long-term climate data; as is the case throughout Türkiye, there is an increasing trend in temperature and a decreasing trend in precipitation in Bingöl province [28,29]. However, due to its classification as a humid region based on precipitation levels, Bingöl holds an advantage in plant diversity compared to other arid and semi-arid regions of Türkiye. The campus of Bingöl University (Figure 1) is situated in an area rich in plant biodiversity and it is home to a wide variety of cultivated and natural plants, including geophytes. There is also a small-scale natural woodland area dominated by oak species (*Quercus* spp.) in the south-western part of the campus.

This study aimed to identify the flora of Bingöl University campus, which is located in the city center, and contribute to the strategies for the conservation of biodiversity in the campus area based on the findings obtained. In addition to the floristic characteristics, this study highlights the potential use of native plant species in landscape design within the campus area, thereby offering an alternate strategy for the sustainable management of campus green spaces. Furthermore, this study has systematically documented the campus flora of Bingöl University for the first time, establishing a reference for monitoring future floristic changes.



Figure 1. The map of Bingöl University campus

2. MATERIAL AND METHOD

The research material consists of all native and landscape plants that were obtained within the Bingöl University Campus between February to November of 2022–2024. Fruits, seeds, flowers, and basal leaves—parts necessary for species identification—were taken and identified wherever possible during specimen collection. To accomplish this, the plant was observed and photographed throughout a three-year period, from spring to fall. The identification of the species was carried out by using the 11-volume Flora of Turkey (Flora of Turkey and the East Aegean Islands) [30–32]). Additionally, the Illustrated Flora of Turkey volumes 2 and 3 [33,34], Trees and Shrubs of Turkey [35] and All Trees and Shrubs of Turkey [36] were used. The latin names and authorship of the taxa were checked from the websites “World Flora Online (WFO)” [37], “The Plant List” [38], “Bizim Bitkiler” [39] and Plant List of Turkey [40]. The local names of plants were provided using the Plant List of Turkey [40] for native or naturalized species to Turkey and Trees and Shrubs of Turkey [35] and All Trees and Shrubs of Turkey [36] for exotic plants.

3. RESULTS AND DISCUSSION

The results of this study indicate that the Bingöl University campus area contains 200 taxa (150 genera) belonging to 53 families. The identified flora includes 76 taxa of trees and shrubs, 59 annual herbaceous plants, and 65 perennial herbaceous species (Table 1). Among these, 103 taxa grow naturally on the campus, while 97 taxa are utilized for landscaping purposes. The geophytes that were determined in the area are shown in Figure 2, the trees and shrubs used for landscape design are presented in Figure 3, and some annual and perennial herbaceous plants are shown in Figure 4. In the landscaping practices implemented within the campus area, in addition to exotic (non-native) species, herbaceous and woody plant species that are found in the natural vegetation of Bingöl and possess aesthetic value have also been used. An arid landscape garden was designed on an area of 2560 m² within the campus territory [41], and the plants in this garden were included within the study.

The most represented family is Fabaceae, comprising 28 taxa, followed by Rosaceae (22 taxa), Asteraceae (12 taxa), Lamiaceae (9 taxa), and Brassicaceae (9 taxa). A total of four endemic taxa (2% endemism) were identified in the research area, which are naturally distributed or used for landscaping purposes. These are *Arum rupicola* var. *rupicola* Boiss., *Centaurea fenzlii* Reichenhardt, *Iris sari* Schott ex Baker, and *Verbascum diversifolium* Hochst.



Figure 2. Photographs of natural geophytes for Bingöl taken from the campus area (a: *Ophrys transhyrcana*, b: *Fritillaria imperialis*, c: *Iris persica*, d: *Himantoglossum comperianum* e: *Iris sari*, f: *Crocus pallasii*, g: *Iris reticulata*, h: *Corydalis oppositifolia* subsp. *kurdica*, i: *Tulipa armena*, j: *Ixiolirion tataricum*, k: *Orchis tridentata* l: *Gagea luteoides*)

Table 1. Taxa determined in the research area (*: endemic, □: plants distributed in the native flora of the campus)

Family	Taxa	Local name
Adoxaceae	<i>Sambucus nigra</i> L. 'variegata'	ağaç mürver
Adoxaceae	<i>Viburnum opulus</i> L.	gilaburu
Adoxaceae	<i>Viburnum opulus</i> L. var. <i>roseum</i> Aiton	kartopu
Anacardiaceae	<i>Cotinus coggygia</i> Scop.	boyacısumacı
Anacardiaceae	<i>Rhus coriaria</i> L.	sumak
Apiaceae	<i>Lecokia cretica</i> (Lam.) DC. □	eşekbaldıramı, tırvaş
Apiaceae	<i>Torilis japonica</i> (Houtt.) DC. □	uzun dercikotu
Araceae	<i>Arum rupicola</i> var. <i>rupicola</i> Boiss. * □	dağsorsalı
Asparagaceae	<i>Muscari neglectum</i> Guss. ex Ten. □	arapüzümü
Asparagaceae	<i>Ornithogalum narbonense</i> L. □	akbaldır
Asparagaceae	<i>Ornithogalum oligophyllum</i> E.D.Clarke □	kurtsoğanı
Asparagaceae	<i>Scilla siberica</i> Haw.	camışkıran
Asteraceae	<i>Achillea arabica</i> Kotschy □	civanperçemi, gorik
Asteraceae	<i>Centaurea fenzlii</i> Reichhardt *	sarıbaşdiken, telu
Asteraceae	<i>Centaurea iberica</i> Trev. ex Spreng. □	deligözdiken, belhok, teli
Asteraceae	<i>Centaurea solstitialis</i> L. □	çakırdiken, teli, belhok
Asteraceae	<i>Cyanus triumfettii</i> (All.) Dostál ex Á.Löve & D.Löve	deli kapele, diken
Asteraceae	<i>Chardinia orientalis</i> (L.) Kuntze □	çağlaotu
Asteraceae	<i>Cichorium intybus</i> L. □	hindiba, tahlık
Asteraceae	<i>Cnicus benedictus</i> L. □	topdiken
Asteraceae	<i>Helichrysum plicatum</i> subsp. <i>plicatum</i> DC.	mantuvar, sesum, altınotu,

Asteraceae	<i>Onopordum carduchorum</i> Bornm. & Beauverd □	kavdiken
Asteraceae	<i>Senecio vernalis</i> Waldst. & Kit. □	kanaryaotu
Asteraceae	<i>Tragopogon dubius</i> Scop. □	yemlik
Berberidaceae	<i>Berberis vulgaris</i> L.	kadın tuzluğu
Betulaceae	<i>Betula pendula</i> Roth	huş
Bignoniaceae	<i>Catalpa bignonioides</i> Walter	sigara ağacı, katalpa
Boraginaceae	<i>Anchusa azurea</i> Mill. □	sığırdili
Boraginaceae	<i>Cynoglossum officinale</i> L. □	gözpıtrağı
Boraginaceae	<i>Echium italicum</i> L. □	kurtkuyruğu
Boraginaceae	<i>Heliotropium europaeum</i> L.	akrepotu
Boraginaceae	<i>Onosma sericea</i> Willd. □	kâğıt emcek
Boraginaceae	<i>Paracaryum cristatum</i> (Schreb.) Boiss. □	ana çarşakotu
Boraginaceae	<i>Phyllocara aucheri</i> (A.DC.) Guşul. □	karadindik, sımşımık
Brassicaceae	<i>Aethionema arabicum</i> (L.) Andr. ex DC.	arap taşçantası
Brassicaceae	<i>Aethionema grandiflorum</i> Boiss. & Hohen.	koca kayagülü, gihave birina
Brassicaceae	<i>Alyssum smyrnaeum</i> C.A.Mey. □	izmir kuduzotu
Brassicaceae	<i>Capsella rubella</i> Reut. □	ayşecik
Brassicaceae	<i>Descurainia sophia</i> (L.) Webb ex Prantl □	sadırotu
Brassicaceae	<i>Draba verna</i> L. □	çirçirotu
Brassicaceae	<i>Lepidium draba</i> L. (sin. <i>Cardaria draba</i> (L.) Desv.) □	diğnik
Brassicaceae	<i>Microthlaspi perfoliatum</i> (L.) F.K.Mey. □	giyle
Brassicaceae	<i>Sisymbrium altissimum</i> L. □	ergelenotu
Campanulaceae	<i>Legousia speculum-veneris</i> (L.) Durande ex Vill. □	hoş kadınaynası
Caprifoliaceae	<i>Lonicera tatarica</i> L.	yalın nevrüzotu
Caprifoliaceae	<i>Pterocephalus plumosus</i> (L.) Coulter □	gök cüctükotu
Caprifoliaceae	<i>Valeriana officinalis</i> L. □	kediotu
Caryophyllaceae	<i>Cerastium perfoliatum</i> L. □	ekin boynuzotu
Caryophyllaceae	<i>Dianthus orientalis</i> Adams, Weber & Mohr	yar karanfili
Caryophyllaceae	<i>Holosteum umbellatum</i> var. <i>umbellatum</i> L. □	şeytanküpesi
Caryophyllaceae	<i>Moenchia coerulea</i> Boiss. □	gök dörtlü
Caryophyllaceae	<i>Saponaria prostrata</i> Willd.	ebemterliği, sabunotu
Caryophyllaceae	<i>Silene vulgaris</i> (Moench) Garcke	ecibücü
Caryophyllaceae	<i>Vaccaria hispanica</i> (Mill.) Rauschert □	ekinebesi
Caryophyllaceae	<i>Velezia rigida</i> L.	tığotu
Convolvulaceae	<i>Convolvulus arvensis</i> L.	tarla sarmaşığı, leminek
Cupressaceae	<i>Cupressus arizonica</i> Greene	Arizona servisi
Cupressaceae	<i>Juniperus oxycedrus</i> L.	katran ardıcı
Cupressaceae	<i>Platycladus orientalis</i> (L.) Franco	doğu mazısı
Cyperaceae	<i>Eleocharis quinqueflora</i> (Hartmann) O. Schwarz	seyreksaz
Elaeagnaceae	<i>Elaeagnus angustifolia</i> L.	iğde
Elaeagnaceae	<i>Elaeagnus rhamnoides</i> (L.) A.Nelson	çıçıgan
Euphorbiaceae	<i>Euphorbia denticulata</i> Lam.	karasütlük

Euphorbiaceae	<i>Euphorbia esula</i> subsp. <i>tommasiniana</i> (Bertol.) Kuzmanov □	eşek sütleğeni
Fabaceae	<i>Albizia julibrissin</i> Durazz.	gül ibrişim
Fabaceae	<i>Cercis siliquastrum</i> L.	erguvan
Fabaceae	<i>Colutea cilicica</i> Boiss. & Balansa	patlangaç, patpatık
Fabaceae	<i>Lathyrus inconspicuus</i> L. □	yılan mürdümüğü
Fabaceae	<i>Lathyrus setifolius</i> L. □	büllübaklası
Fabaceae	<i>Lathyrus sphaericus</i> Retz. □	çamburçağı
Fabaceae	<i>Lotus corniculatus</i> L. □	gazelboynuzu
Fabaceae	<i>Medicago lupulina</i> L. □	bitçikotu
Fabaceae	<i>Medicago sativa</i> L. □	karayonca
Fabaceae	<i>Melilotus officinalis</i> (L.) Desr. □	kokuluyonca
Fabaceae	<i>Pisum sativum</i> L. □	bezelye
Fabaceae	<i>Robinia hispida</i> L.	pembe çiçekli yalancı akasya
Fabaceae	<i>Robinia pseudoacacia</i> L.	beyaz çiçekli yalancı akasya
Fabaceae	<i>Securigera varia</i> (L.) Lassen □	körigen
Fabaceae	<i>Styphnolobium japonicum</i> (L.) Schott	Japon soforası
Fabaceae	<i>Trifolium campestre</i> Schreb. □	üçgül
Fabaceae	<i>Trifolium pauciflorum</i> d'Urv. □	sülün üçgülü
Fabaceae	<i>Trifolium physodes</i> var. <i>physodes</i> Steven & M.Bieb. □	meşe üçgülü
Fabaceae	<i>Trifolium pratense</i> L. □	çayır üçgülü
Fabaceae	<i>Trifolium purpureum</i> var. <i>purpureum</i> Lois. □	mor üçgül
Fabaceae	<i>Trifolium resupinatum</i> L. □	anadolu üçgülü, nefil
Fabaceae	<i>Vicia anatolica</i> Turrill □	yılan fiği
Fabaceae	<i>Vicia cracca</i> subsp. <i>stenophylla</i> Vel. □	kuş fiği, mercür, holoz,
Fabaceae	<i>Vicia hybrida</i> L. □	melez bakla
Fabaceae	<i>Vicia pannonica</i> var. <i>pannonica</i> Crantz □	macar fiği
Fabaceae	<i>Vicia sativa</i> subsp. <i>nigra</i> var. <i>nigra</i> (L.) Ehrh. □	fiğ
Fabaceae	<i>Vicia villosa</i> subsp. <i>villosa</i> Roth □	tüylü fiğ
Fabaceae	<i>Wisteria sinensis</i> (Sims) DC.	mor salkım
Fagaceae	<i>Quercus infectoria</i> Oliv. □	mazı meşesi
Fagaceae	<i>Quercus libani</i> Oliv. □	lübnan meşesi
Fagaceae	<i>Quercus petraea</i> (Matt.) Liebl. □	sapsız meşe, balu, mazer
Geraniaceae	<i>Erodium cicutarium</i> (L.) L. Hér. □	iğnelik
Geraniaceae	<i>Geranium tuberosum</i> L.	çakmuz, hilok
Hypericaceae	<i>Hypericum lydiu</i> Boiss. □	cayesancıyan
Hypericaceae	<i>Hypericum scabrum</i> L. □	karahasañayı, botav
Iridaceae	<i>Crocus pallasii</i> Goldb. □	güzçimi
Iridaceae	<i>Crocus speciosus</i> M.Bieb.	çayır çiğdemi
Iridaceae	<i>Iris persica</i> L. □	buzala

Iridaceae	<i>Iris reticulata</i> M.Bieb. □	karakörpeze
Iridaceae	<i>Iris sari</i> Schott ex Baker *	ana kurtkulağı
Ixioliriaceae	<i>Ixiolirion tataricum</i> var. <i>tataricum</i> (Pall.) Schult. & Schult.f. □	köpekotu
Juglandaceae	<i>Juglans regia</i> L.	ceviz
Lamiaceae	<i>Buddleia davidii</i> Franch.	kelebek çalısı
Lamiaceae	<i>Lallemantia iberica</i> (M.Bieb.) Fisch. & C.A.Mey.	ajdarbaşı
Lamiaceae	<i>Lamium amplexicaule</i> L. □	baltutan
Lamiaceae	<i>Lavandula angustifolia</i> Mill.	lavanta
Lamiaceae	<i>Rosmarinus officinalis</i> L.	biberiye
Lamiaceae	<i>Salvia multicaulis</i> Vahl	kürtreyhanı
Lamiaceae	<i>Salvia sclarea</i> L.	paskulak, dağ çayı
Lamiaceae	<i>Salvia verticillata</i> L.	dadırak, pengi
Lamiaceae	<i>Ziziphora capitata</i> L. □	anuk
Liliaceae	<i>Fritillaria imperialis</i> L.	ağlayangelin
Liliaceae	<i>Fritillaria persica</i> L.	kırklâle
Liliaceae	<i>Fritillaria pinardii</i> Boiss.	mağcuplâle
Liliaceae	<i>Gagea luteoides</i> Stapf □	altınıyıldız
Liliaceae	<i>Tulipa armena</i> Boiss. □	hoş lâlâ
Linaceae	<i>Linum mucronatum</i> Bertol.	sarı keten
Lythraceae	<i>Lythrum salicaria</i> L. □	hev hulma
Malvaceae	<i>Hibiscus syriacus</i> L.	ağaçhatmi
Malvaceae	<i>Tilia rubra</i> DC.	kafkas ıhlamuru
Moraceae	<i>Morus nigra</i> L.	kara dut,
Oleaceae	<i>Ailanthus altissima</i> (Mill.)Swingle. □	kokarağaç
Oleaceae	<i>Forsytia intermedia</i> Zabel	altın çanı
Oleaceae	<i>Ligustrum vulgare</i> L.	kurtbağrı
Oleaceae	<i>Spiraea x vanhouttei</i> (Briot) Carrière	ispirya
Oleaceae	<i>Syringa vulgaris</i> L.	leylak
Orchidaceae	<i>Himantoglossum comperianum</i> (Steven) P.Delforge □	meşekeşkeşi
Orchidaceae	<i>Ophrys transhyrcana</i> Czerniak. □	uslusalep
Orchidaceae	<i>Orchis tridentata</i> Scop. □	katranalacası
Orobanchaceae	<i>Parentucellia viscosa</i> (L.) Caruel □	salgılı üçdiliotu
Paeoniaceae	<i>Paeonia arietina</i> G.Anderson	şakayık
Papaveraceae	<i>Corydalis oppositifolia</i> subsp. <i>kurdica</i> (Cullen & P.H.Davis) Lidén □	şepirze
Papaveraceae	<i>Fumaria asepal</i> Boiss. □	ak şahtere
Papaveraceae	<i>Fumaria officinalis</i> L. □	şahtere
Papaveraceae	<i>Fumaria parviflora</i> Lam. □	tarla şahteresi
Papaveraceae	<i>Glaucium leiocarpum</i> Boiss.	gâvurhaşaşı
Papaveraceae	<i>Papaver argemone</i> L. □	kumhaşaşı
Paulowniaceae	<i>Paulownia tomentosa</i> (Thunb.) Britton.	pavlonya
Pinaceae	<i>Cedrus libani</i> A.Rich.	sedir, katranağacı
Pinaceae	<i>Picea pungens</i> Engelm.	mavi ladin
Pinaceae	<i>Pinus nigra</i> subsp. <i>pallasiana</i> var. <i>pallasiana</i> □	karaçam
Pinaceae	<i>Pinus sylvestris</i> L.	sarı çam
Plantaginaceae	<i>Globularia trichosantha</i> Fisch. & C.A.Mey.	köseyayılımı
Plantaginaceae	<i>Linaria simplex</i> DC. □	yalın nevrüzotu

Plantaginaceae	<i>Veronica hispidula</i> Boiss. & A.Huet subsp. <i>hispidula</i>	delimaviş
Plantaginaceae	<i>Veronica orientalis</i> Mill.	gözmumcuğu
Platanaceae	<i>Plantago lanceolata</i> L. □	damarlıca
Platanaceae	<i>Platanus orientalis</i> L.	çınar
Poaceae	<i>Bromus tectorum</i> L.	kır bromu
Poaceae	<i>Poa bulbosa</i> L. □	yumrulusalkım
Ranunculaceae	<i>Ceratocephala falcata</i> (L.) Pers. □	yelotu
Ranunculaceae	<i>Ceratocephala testiculata</i> (Crantz) Roth □	düğün yelotu
Ranunculaceae	<i>Ranunculus illyricus</i> L. □	gümüş düğünçeği
Ranunculaceae	<i>Ranunculus kochii</i> Ledeb. □	karçiceği
Rhamnaceae	<i>Paliurus spina-christi</i> P. Mill. □	karaçalı
Rosaceae	<i>Amygdalus communis</i> L.	badem
Rosaceae	<i>Cerasus avium</i> (L.) Moench	kiraz
Rosaceae	<i>Chaenomeles speciosa</i> (Sweet) Nakai	bahar dalı
Rosaceae	<i>Cotoneaster franchetti</i> Boiss.	Tibet dağ muşmulası
Rosaceae	<i>Cotoneaster horizontalis</i> Decne.	bahçe alıcı
Rosaceae	<i>Crataegus laevigata</i> (Poir.) DC.	pembe çiçekli süs alıç
Rosaceae	<i>Crataegus monogyna</i> Jacq.	yemişen
Rosaceae	<i>Crataegus orientalis</i> Pall.	yayılıcı dağ muşmulası
Rosaceae	<i>Cydonia oblonga</i> Mill.	ayva
Rosaceae	<i>Malus floribunda</i> Siebold ex Van Houtte	Japon elması
Rosaceae	<i>Malus pumila</i> Mill.	elma
Rosaceae	<i>Malus sylvestris</i> (L.) Mill.	yaban elması
Rosaceae	<i>Potentilla recta</i> L. □	suparmakotu
Rosaceae	<i>Prunus cerasifera</i> Ehrh.	kırmızı yapraklı erik
Rosaceae	<i>Prunus serrulata</i> Lindl.	Japon kirazı
Rosaceae	<i>Prunus spinosa</i> L.	çakal eriği
Rosaceae	<i>Pyracantha coccinea</i> M.J.Roemer	ateşdiken
Rosaceae	<i>Rosa canina</i> L. □	kuşburnu, sırgul, şılan
Rosaceae	<i>Sanguisorba minor</i> L. □	çayır düğmesi
Rosaceae	<i>Sorbus aucuparia</i> L.	kuş üvezi
Rosaceae	<i>Sorbus torminalis</i> var. <i>torminalis</i> (L.) Crantz	pitlicen
Rosaceae	<i>Sorbus umbellata</i> Fritsch	geyik elması
Rubiaceae	<i>Cruciata taurica</i> (Pall. ex Willd.) Ehrend. □	kırım güzeli
Salicaceae	<i>Populus nigra</i> L.	kara kavak
Salicaceae	<i>Populus tremula</i> L.	titrek kavak
Salicaceae	<i>Salix babylonica</i> L.	salkım söğüt
Salicaceae	<i>Salix matsudana</i> Koidz.	tirbuşon söğüdü
Salicaceae	<i>Vitis sylvestris</i> L. □	yaban asması
Sapindaceae	<i>Acer negundo</i> L.	dişbudak yapraklı akçaağaç
Sapindaceae	<i>Acer pseudoplatanus</i> L.	dağ akçaağacı
Sapindaceae	<i>Aesculus hippocastanum</i> L.	at kestanesi
Sapindaceae	<i>Hippocastanum aestivum</i> L.	atkestanesi
Sapindaceae	<i>Koelreuteria paniculata</i> Laxm.	güvey kandi
Scrophulariaceae	<i>Scrophularia canina</i> L. □	it sıracaotu
Scrophulariaceae	<i>Verbascum diversifolium</i> Hochst. * □	nizip siğirkuyruğu
Tamaricaceae	<i>Tamarix smyrnensis</i> Bunge □	ılgın
Ulmaceae	<i>Ulmus glabra</i> Huds.	dağ karaağacı

Ulmaceae	<i>Ulmus minor</i> Mill.	gürge yapraklı karaağaç
Vitaceae	<i>Parthenocissus quinquefolia</i> (L.) Planch.	Amerikan sarmaşığı
Vitaceae	<i>Abelya x grandiflora</i> (Rovelli ex André) Rehder	abelya, Çin güzellik çalısı
Xanthorrhoeaceae	<i>Eremurus spectabilis</i> M.Bieb.	çiriş

Similar studies accomplished across various university campuses in Turkey with the goals of introducing the campus territory, revealing the floral diversity, and laying the groundwork for future studies on biological diversity. Previous studies on the determination of campus floras reported that 161 natural plant taxa belonging to 38 families in Süleyman Demirel University campus [7], 78 families and 452 taxa in Akdeniz University campus [9], 223 taxa belonging to 58 families in Ordu University campus flora [42], 143 species belonging to 53 families in Yıldız Campus historical garden [6], 192 taxa belonging to 50 families in Karadeniz Technical University campus [8], 356 taxa belonging to 56 families in Uludağ University campus [43], 363 taxa belonging to 74 families in Anadolu University campus [5], 510 species belonging to 57 families in Hacettepe University Beytepe Campus [2], 445 species belonging to 79 families in Ankara University Tandoğan Campus [3], 382 taxa belonging to 51 families in Başkent University Bağlıca Campus [1], 371 taxa belonging to 61 families in Kırıkkale University campus [15], 38 tree species in Eskişehir Osmangazi University campus woody plants flora [10], 65 taxa belonging to 27 families in Düzce University Konuralp Campus [44]. Determining the flora of the campus is essential in terms of revealing local biodiversity, establishing scientific databases, and providing a background for landscape planning. The use of plants from Bingöl's natural flora in an arid garden design [41] demonstrated that the native species may be considered both aesthetically and functionally in landscape design. Based on this study, giving endemic and native plant species priority in campus landscaping will help to recognize regional plant diversity and conserve and reproduce local plant genetic resources in a sustainable manner. Furthermore, the use of native plants in landscape design will contribute to increasing the level of ecological awareness of university students and provide a source of living material for practical courses or research activities to be carried out in different departments.

In order to enhance the impact and visibility of landscape design approaches, it is recommended to prepare informative materials (e.g., posters, billboards, brochures, etc.) that introduce the plant species utilized. These types of promotional activities will support the awareness of individuals visiting the campus on plant biodiversity and will also contribute to highlighting the natural and cultural heritage of the campus, thereby strengthening its ecotourism potential.

In addition to *Fritillaria* species and *Scilla siberica* obtained from different areas of Bingöl and transplanted to the campus for landscaping purposes, natural geophyte species *Himantoglossum comperianum*, *Ophrys*

transhyrcana, *Orchis tridentata*, *Tulipa armena*, and representatives of the genera *Ornithogalum*, *Crocus*, *Muscari*, and *Iris* were found to be distributed natively in the campus. The natural presence of these species in the area, their high adaptability to the ecological conditions of the region, and their self-reproducing ability are advantageous for horticultural applications. Specifically, the use of attractive species with high aesthetic value, such as *Paeonia arietina*, *Fritillaria imperialis*, and *Tulipa armena*, in the campus area will both emphasize the floral diversity of Bingöl and raise awareness about the local flora. These approaches may serve as prototypes for green spaces and garden design in other parts of the province, and the region may be positioned as a prospective ecotourism destination with nature-based landscape design.



Figure 3. Trees and shrubs used for landscaping purposes within the Bingöl University campus

(a: *Chaenomeles speciosa*, b: *Wisteria sinensis*, c: *Abelia x grandiflora*, d: *Syringa vulgaris*, e: *Cercis siliquastrum*, f: *Malus floribunda*, g: *Colutea cilicica*, h: *Lonicera tatarica*, i: *Hibiscus syriacus*, j: *Elaeagnus angustifolia*, k: *Prunus serrulata*, l: *Rosa canina*)



Figure 4. Some perennial and annual plants from Bingöl University campus area

(a: *Achillea arabica*, b: *Cynoglossum officinale*, c: *Linum mucronatum*, d: *Cerastium perfoliatum*, e: *Glaucium leiocarpum*, f: *Legousia speculum-veneris*, g: *Trifolium pratense*, h: *Lavandula angustifolia*, i: *Centaurea fenzlii*, j: *Convolvulus arvensis*, k: *Hypericum scabrum*, l: *Chardinia orientalis*)

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