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Endemic Plants of Kaz Mountain National Park: Pattern and Design Suggestions

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Abstract

The purpose of this study is to examine the risk factors associated with the presence of endemic plants within the Kaz mountain national park. The study considers the impact of various factors, including the park's geographical location and the specific characteristics of the endemic plants themselves, on the risk of these plants becoming extinct. The objective of this study is to present a comprehensive analysis of the subject matter, integrating the findings of previous research with artistic design proposals to offer a novel perspective on the subject. The introductory section of the article begins with an overview of the area, which is commonly referred to as the Kaz mountains range and includes the Kaz mountain. The area known as the Utlesi region and the characteristics of the Kaz mountain national park, which is situated within this region, are briefly outlined. In subsequent sections, the concepts of endemism and endemic plant species will be discussed, with particular focus on the endemic flora of Turkey. This will serve as the primary focus of the study. The aim of this study is to present the characteristics of the endemic plants of Kaz mountain national park, their habitats and the potential risks they may face. In the final section, proposals for designs and patterns based on the aforementioned plants are presented. The subject of this study is a region of great cultural, health, tourism and economic importance to our country. The aim is to gain insight into the various artistic practices associated with the endemic species that occur in this region. This will contribute to the development of different perspectives and awareness on this topic.

Keywords: Kaz Mountains, Endemic Plants, Pattern Design, Art, Ceramics.

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INTRODUCTION

The Kaz mountains, situated within a region characterised by a high level of human settlement, have long been regarded as a unique natural and cultural landscape, encompassing a wealth of historical and mythological significance. Furthermore, the region is home to endemic species that are unique to this area and have not been observed elsewhere in the world. Scientific studies have also identified endemic species in different regions of Turkey.

The entirety of the region is so vast and encompasses such a vast array of subjects that it is not feasible to undertake a comprehensive study of it within the confines of this particular project. Therefore, the limitations of this project are merely a consequence of its inherent scope. The artistic production planned for the Kaz mountain national park will draw on the endemic flora found within the park, which is known as Kaz mountain. The aforementioned plants will not only be depicted for their aesthetic appeal, but also for the environmental factors that may affect their continued existence.

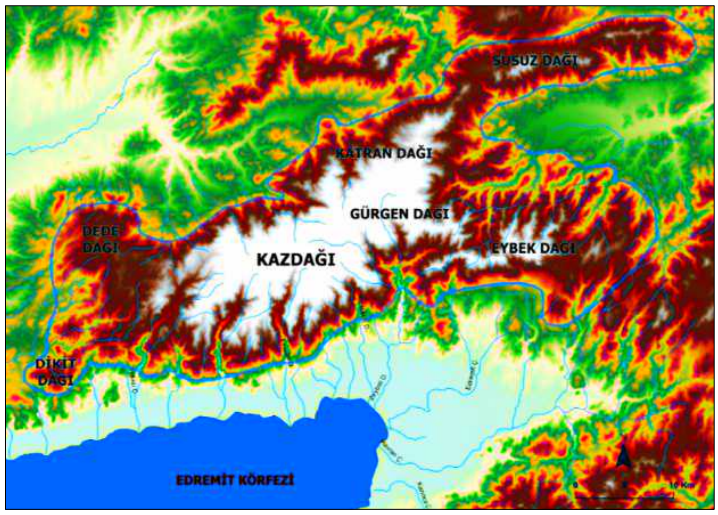


Figure 1. Mountains forming the Kaz mountains range (Poyraz 2013:39)

From a geographical perspective, the Kaz mountain extends from the northern Edremit Bay region to the north-eastern and south-western areas, spanning a distance of approximately 60–70 km. The range is bordered to the west by the Baba mountains. The of Kaz mountain is comprised of the following mountain ranges, which extend in a north-easterly direction from the island's eastern coastline: the Eybek mountain, Gürgen, Kocakatran, Küçükkatran and Susuz (Sakar mountain) (Dirmenci et al., 2012).

The region in question boasts a fully integrated ecosystem, with a small portion designated as the Kaz mountain national park in 1993 (T.C. Resmî Gazete). Furthermore, 52 distinct locations encompassing 3,232 hectares have been designated as the " On-Site Conservation Area of Genetic

Resources " (TEMA, 2020). The Kaz mountains, which include the national park, are situated at the convergence of the European-Siberian, Mediterranean and Iranian-Turan flora regions. The metamorphic Kaz mountains represent a significant area of endemism (Avcı, 2005). A total of 32 of the 800 species of plant identified in the national park are endemic to Kaz mountain. Furthermore, 40 species of plant native to Turkey and endemic to the country have been identified in Kaz mountain (Dirmenci et al., 2004).

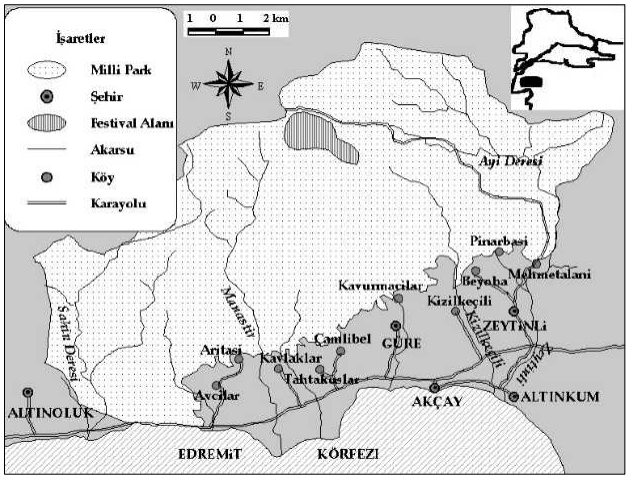


Figure 2. Kaz mountain national park (Arı and Soykan, 2005)

The Definition of Endemism and Endemic Plants

Endemic flora are defined as plant species that are endemic to a particular region, characterised by specific environmental conditions that limit their distribution and survival in other geographical areas. It is not possible to reverse the damage or loss of these invaluable resources.

The word 'endemic' is derived from the Greek 'indigenous, endemos'. The term is employed in botany to describe plants with limited distributions. The boundaries of endemism are not clearly defined; they can refer to a mountain, a region, a country, or even a continent. (Gemici et al., 1992). The criteria for defining an endemic plant can be summarized as follows: a plant must be found or grow in a single geographical area. The species must originate from a single location and be the result of natural processes (Meydan, 2016).

The floristic structure of Turkey, as outlined in the 2017 report, is based on the evolutionary theory proposed by Stebbins in 1945, which outlines five stages of evolution. The processes of mutation, genetic recombination, natural selection, isolation (or speciation) and ecological causes (such as drought and glaciation) all contribute to the evolution of flora. With regard to the classification of species, the most widely accepted approach is that proposed by Favager and

Contandriopulus (1961). These researchers have classified the endemic species into four groups: paleoendemics, zoendoendemics, paratoendoendemics, and apoendemics (Anonim, 2017).

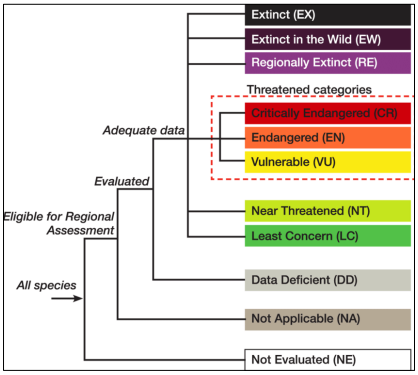


Figure 3. IUCN Red List Categories (IUCN, 2012).

The Kaz Mountains Endemic Plant Formation and Some Examples

The flora of the Kaz mountains is of great significance at the national and global levels due to its unique geological, morphological, climatic, and soil characteristics, as well as its rich endemism. The most significant characteristics of endemic species are their restricted distribution and inability to be transported to other locations, as well as their inability to be reproduced once they have become extinct. Consequently, these species should be regarded as national treasures and placed under protection. A qualitative assessment of the risk categories revealed that 17 of the endemic and rare species were classified as "CR" (Critically Endangered), 9 as "EN" (Endangered), and 6 as "VU" (Vulnerable). The species is classified as "VU" (Vulnerable) and three as "NT" (Near Threatened) (Dirmenci et al., 2012: 181).

Figure 4. Abies nordmanniana (Stev.) Spach subsp. equi-trojani (Asch. & Sint. ex Boiss.) Coode & Cullen (www.butopraklar.com)

Figure 5. Achillea fraasi Schultz subsp. troiana Asch. & Heimeri (www.ovakahvalti.com)

Figure 6. Asperula sintenisii Aschersonex Bornm. (Tümen vd., 2007).

Figure 7. *Hypericum kazdaghensis* Gemici&Leblebici (www.kazdaglari.com)

Figure 8. *Hieracium marmoricola* Sell& West (Tümen vd., 2007)

Figure 9. *Hieracium scamandris* Zahn (www.kazdaglari.com)

Figure 10. Armeria trojana Bokhari&Quézel (Tümen vd., 2007).

Figure 11. *Astragalus idae* Širj. (Tümen vd., 2007).

Figure 12. *Jasione idaea* oj. (Tümen vd., 2007).

Figure 13. *Thymus pulvinatus* Čelak (Tümen vd., 2007).

Figure 14. *Nepeta sibthorpii* Benth. subsp. *tumeniana* T. Dirmenci (Tümen vd., 2007).

Figure 15. *Minuartia garckeana* (Asch. & Sint. exBoiss.) Mattf. (Tümen vd., 2007).

Figure 16. *Ferulago trojana* E. Akalın&Pimenov (www.ovakahvalti.com)

Figure 17. Galium trojanum Ehrend. (Tümen vd., 2007).

Figure 18. *Cirsium steirolepis* Petrak (www.kazdaglari.com)

Figure 19. *Sideritis trojana* Bornm. (Tümen vd., 2007)

Figure 20. *Centaurea athoa* DC. (www.ovakahvalti.com)

Figure 21. *Centaurea odyssei* Wagenitz. (Tümen vd., 2007).

Figure 22. Allium kurtzianum [Asch. &Sint. ex] Kollman (www.kazdaglari.com)

Figure 23. *Crocus gargaricus* Herbert subsp. *gargaricus* (www.turkiyebitkileri.com)

Figure 24. *Nepeta sibthorpii* Benth. subsp. *tumeniana* T. Dirmenci (Tümen vd., 2007).

Figure 25. *Minuartia garckeana* (Asch.& Sint. exBoiss.) Mattf. (Tümen vd., 2007).

A Preliminary Analysis of The Potential Risks to Endemic Plant Species in Kaz Mountain National Park Has Been Conducted.

The designated area of Kaz mountain massif, classified as a "National Park," is subject to conservation measures, whereas the remaining areas are not. One of the benefits of protected areas is the conservation of habitats for endangered plant species (Arpa, 2012). The status of these areas varies, but in Turkey, they include national parks, nature reserves, natural monuments, protected forests, conservation forests and seed forests. Additionally, there are protected areas under the responsibility of different institutions, including natural sites, special protected areas, and wetlands (Akalın, 2007).

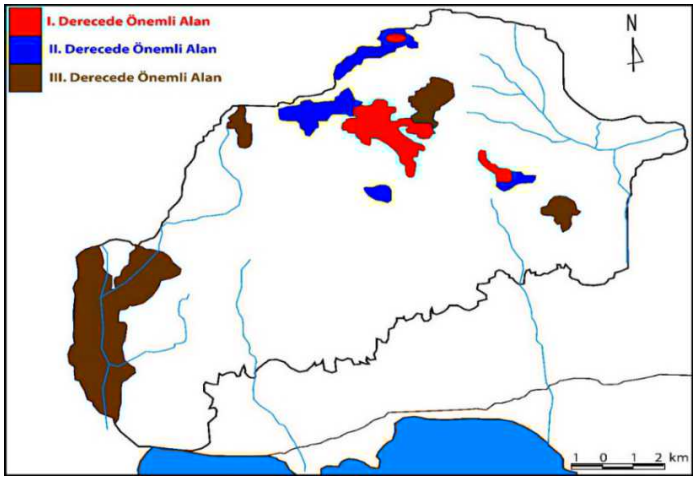


Figure 26. Priority Conservation Areas of Kaz mountain national park in terms of Endemic and Rare Plants (Satıl, Dirmenci and Tümen, 2006).

It is widely acknowledged that the alpine region of Kaz mountains is home to a significant number of endemic species, and that it is also one of the most visited areas during the summer months. It is inevitable that some visitors to the area will fail to heed the warnings of the authorities and collect plant specimens, thereby causing irreparable harm to the endemic flora of the region. Furthermore, the unregulated collection and sale of medicinal plants by local people, sometimes even illicitly, is also detrimental to the region's biodiversity.

To illustrate, Kaz mountain Adaçayı is the most prominent example of this phenomenon. According to local newspaper reports from 26 July 2022, six individuals were fined a total of 657,558 Turkish Lira for harvesting the endemic Sarıkız Çayı (Sideritis trojana) plant, which is found only in Kaz mountain. During the course of their duties, teams from the Kaz mountains Directorate of national parks encountered six individuals in the park who were in possession of a considerable quantity of Sideritis trojana plants. The individuals apprehended were subsequently subject to legal proceedings, resulting in the imposition of a financial penalty and the confiscation of the plants in question. In a statement released by the Directorate of national parks, the following information was provided: "The Sideritis trojana species, which is native to the Kaz mountain national park, has been classified as endangered by the IUCN (International Union for Conservation of Nature)." Consequently, this species of plant is protected and cannot be collected. The collection of plants for commercial purposes, which is prohibited for this reason, may result in the extinction of these endemic species.

Figure 27. Illegally collected and captured Sarıkız Tea plant (www.gazeteduvar.com.tr)

The Kaz mountain is situated in an area that is subject to the effects of the Mediterranean climate, which is characterised by dry summers and winters. This results in a period of low precipitation from July to August, which is accompanied by a high level of visitor traffic (Poyraz, 2013). Although the endemic flora of the high-altitude and arid habitats of the mountain is not particularly susceptible to fire, the potential for wildfires to occur in these areas is significant. The resulting smoke and contamination could have a detrimental impact on the flora. Furthermore, the situation is even more critical in the case of endemic species in forest areas.

Furthermore, the combustion of charcoal during outdoor gatherings results in the contamination of the entire green area with smoke and exhaust fumes, which in turn causes environmental degradation. The combination of these pollution factors has resulted in significant damage to the forest, with endemic plants being the most severely affected. The surrounding flora and fauna are also experiencing adverse effects.

This region, which is particularly popular as a holiday home location, was previously subject to seasonal migration. However, the 2011 pandemic caused by the Corona Virus led to a significant period of closure for the Kaz mountains and surrounding areas, which subsequently became a highly sought-after destination for those seeking alternative rural living. The influx of a permanent population has led to a surge in real estate transactions in the region, with the construction industry experiencing a significant increase in activity. This has resulted in a shift away from traditional agricultural and horticultural practices, with an expansion of large-scale industrial sites.

The Kaz mountains region is a highly endowed area with regard to both subterranean and surface water resources. However, the improper and detrimental utilisation of these resources has reached a significant level of concern in recent years. The influx of visitors and the concentrated

permanent migration have contributed to an increase in both the consumption of water and the depletion of these resources.

The objective of the military radar station constructed on Baba mountain was to facilitate access to it. However, the environmental impact of the road widening project within the national park cannot be denied. The detrimental impact of these newly constructed roads is not limited to the felling of trees (Poyraz, 2013).

The establishment of gold mines in the vicinity of Kaz mountains has been accompanied by the excavation of millions of tons of soil and the use of thousands of tons of cyanide, resulting in significant disruption to the terrain. The inevitable consequence of the detonation of explosives and the construction of access routes for industrial operations will be the irreversible degradation of the forest ecosystem. Although these areas appear to be situated beyond the boundaries of Kaz mountain national park, the pollution resulting from these mines can be transported over long distances by air, water and precipitation. Ayrıca mevsimsel ve bölge yapısı gereği var olan kurak mevsimlerin yanı sıra çoğalan yapılaşma ve azalan yeşil alanlar sebebiyle hissedilir düzeyde insan kaynaklı kuraklık ortaya çıkmaya başlamıştır.

Figure 28. Footage of a fire in the Kaz mountains (bianet.org)

The region experiences a significant influx of both domestic and international visitors during the summer months, particularly in the vicinity of its forests and recreational areas. The accumulation of waste products, including odorous substances, toxic liquids, and airborne debris, has the potential to inflict significant harm on the environment and the local ecosystem.

Figure 29. The litter left behind by those engaged in the activity of picnicking in groups on a particular day (www.obmhaber.com)

Theme Of Flowers and Plants In Art

Like all elements of nature, flowers and plants have been a source of inspiration for humans in various aspects since primitive times. They have frequently been depicted on everyday items such as ceramic pots, used in fabric patterns, architecture, traditional crafts, sculpture, literature, cinema, installations, and most notably in painting. Additionally, works in the field of botanical illustration are recognized as both art and scientific study.

Within the realm of art, these uses, even if decorative, serve as an inventory feature from past to present. They not only showcase the variety and beauty of existing species but also help us recognize many extinct plants that have not survived to this day through these depictions.

Flower and plant motifs have been used as decorative elements in ceramic and tile works since ancient times across almost all civilizations. For instance, in the 18th-century Çanakkale ceramics, while many designs are found, flower and plant motifs are frequently used, especially in plate forms.

Figure 30: Examples of Çanakkale Ceramic Plates (www.canakkaleseramikmuzesi.org)

Figure 31: Çanakkale Ceramic Plate from the Late 17th to Early 18th Century (www.facebook.com/canakkalegorsel)

Figure 32: Çintemani Motif Tear Vase (www.istanbulumsanat.com)

Figure 33: Life Tree Pattern İznik Tile Plate Blue (www.istanbulumsanat.com)

Sacha Walckhoff, who designs furniture, carpets, textiles, and porcelain collections, has a particular fondness for botanical patterns, frequently incorporating them into his works. His 'Magic Garden' dinnerware collection for Rosenthal Porcelain is notably inspired by medicinal plants.

Figure 34. Sacha Walckhoff , Hide and Seek Aqueous (www.grahambrown.com)

Figure 35. Sacha Walckhoff , Magic Garden (www.rosenthal.de)

In Cooper's ceramic designs, the capacity of nature to adapt and evolve, despite the constraints of the environment, is a source of admiration. The power of evocative flora and fauna to transform and annihilate, as well as the capacity of materials and techniques to achieve this, are presented in a compelling manner. The beauty of these phenomena is not constrained by human influence. (Zümrüt, 2022).

Figure 36. Jess Riva Cooper, 'Viral Series' and Detail View (www.jessrivacooper.com)

Modern art has transcended mere pattern application, now encompassing various sizes of sculptures and installations in ceramic and glass art.

Figure 37. Forms and Layers (Lorenz, 2019)

Figure 38. The Exotic Garden (Severine, 2019)

Figure 39. Porcelain flower (Peled, 2019)

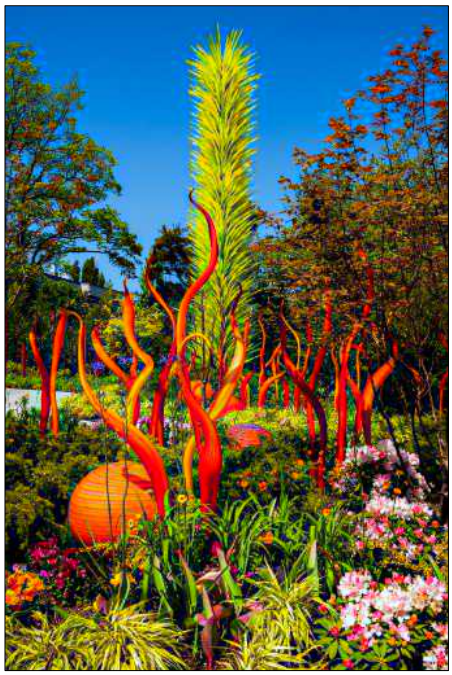


Figure 40. Long Tails, Niijima Floats, Citron Yellow Icicle Tower (Chihuly, 2012)

From past to present, thousands of paintings featuring flowers and plants have been created, yet Vincent van Gogh's (1853-1890) Sunflowers (1888) immediately comes to mind. However, the artist has depicted many other flowers as well. One example is Irises from 1889.

Figure 41. Sunflowers (Van Gogh, 1888)

Figure 42. Irises (Van Gogh, 1889).

Figure 43. Albrecht Dürer, Cowslip, 1526 (www.pivada.com)

Figure 44. Georgia O'Keeffe, Jimson Weed, 1932 (www.georgiaokeeffe.net)

Figure 45. Emil Nolde , Large Poppies, 1942 (artbook.com)

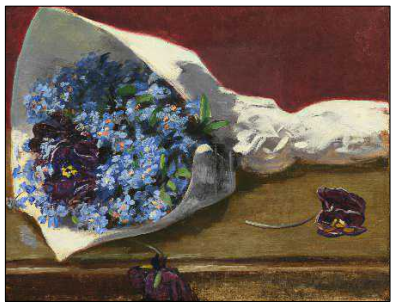


Figure 46. Eva Gonzalès, Bouquet of Flowers 1873-1874 (artsviewer.com)

Flower and plant paintings have always been used in architecture. There are especially striking examples from the rococo and baroque periods. The difference between these two movements is that in the rococo period, flowers and plants are used as an element of architecture, while in the baroque period, they appear as large gardens arranged in a very regular and magnificent way. At the same time, we come across very striking examples in the field of exterior architecture and peysay as well as interior architecture.

Figure 47. Amalienburg Palace in Munich

Figure 48. Hotel de Soubise in Paris (paris-

(www.schloss-nymphenburg.de) capitale-historique.fr)

Figure 49. Versailles gardens in April. Photo by cathcingclouds (bonjourparis.com)

In terms of architecture, rich examples from the Ottoman period also emerge, particularly in the context of interior and exterior decorations. For instance, the embellishments on fountains demonstrate that this ornamental tradition was not confined to palaces but also appeared in everyday life.

Figure 50. Flowers at the Fountain". Gülhane fountain, Harbiye fountain, Fountain detail from Topkapi Palace (Yılmaz, 2017)

William Morris left an indelible mark on his era with the decorative arts firm he established in Victorian Britain. As an inspiration to the Bauhaus movement, his works are regarded as art pieces, encompassing designs rooted in nature, animals, flowers, and plants. Morris's patterns were not merely decorative; he aimed to protect the natural world from pollution and industrialization. Morris's impact on interior decoration is profound, with designs for tapestries, wallpapers, fabric patterns, furniture, and stained glass Windows (www.vam.ac.uk).

Figure 51. William Morris, Acanthus wallpaper, 1875 (www.vam.ac.uk)

Figure 52. William Morris, Trellis wallpaper, 1862 (www.vam.ac.uk)

Figure 53. William Morris, Sunflower wallpaper, 1879 (www.vam.ac.uk)

In the radical environment of the 1960s, earth-oriented art movements began, and natural processes and phenomena inevitably attracted the interest of artists. They conducted numerous experiments and applications in this context.

Until that time, all elements of nature, including flowers and plants, were used as decorative elements in everyday objects or works of art. With the onset of environmental art movements, nature itself began to transform into a work of art. The human inclination to associate the transient nature of existence with the world around us is evident in the desire to demonstrate our superiority to nature and to leave a legacy for future generations (Zümrüt, 2012:5).

For example, Mel Chin's project Revival Field, achieved in collaboration with scientists, is not only an unprecedented conceptual art project but also a scientific project. The purpose of the project is to create sculpture gardens using plants that can clean heavy metals from polluted areas. The first attempt of this ongoing work worldwide was a 60-square-meter installation between 1991-1993 at the Pig's Eye Landfill in St. Paul, Minnesota (melchin.org).

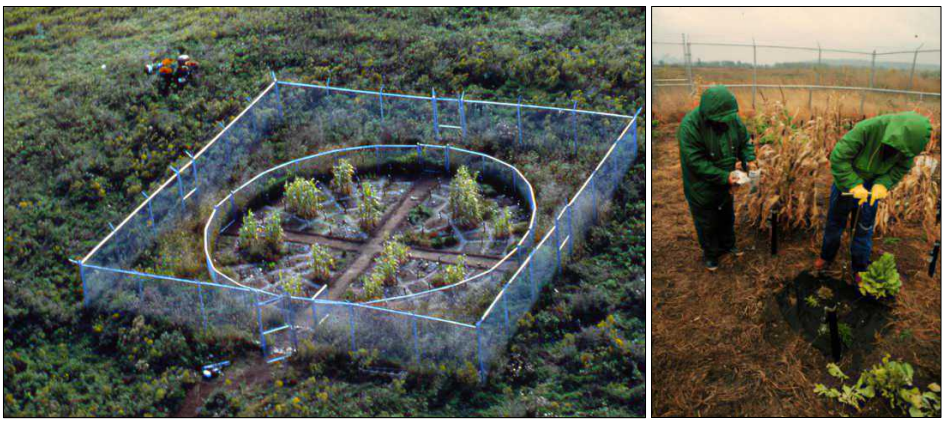


Figure 54. Mel Chin, 1991-1993 Resurrection Field and Plants being collected (melchin.org)

In this context, we can mention a botanical artist, Azuma Makato, who has fully embraced the concept of nature conservation to produce unique works. He showcases the timeless yet temporary

beauty of flowers and plants through botanical sculptures, effectively bringing together nature and art in his installations.

Figure 55. Frosted flower installation, 2015(www.secondnatur.com)

German design professor Karl Blossfeldt's (1865-1932) enlarged plant part photographs (1928), prepared as teaching tools for his plant modeling course, were recognized as art by critics.

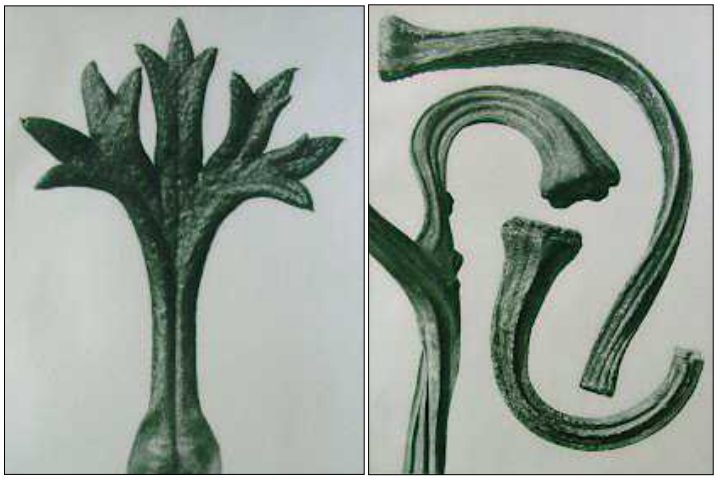


Figure 56. Karl Blossfeldt, Examples of enlarged photographs of plant parts, 1928 (publicdomainreview.org)

At the Istanbul Bienali, 19 different locations in Beyoğlu were equipped with ceramic surveillance cameras, which were installed on the surface of the cameras themselves. This is just one example of the many similar projects in which the artist has used flowers as a means of reproduction (Zümrüt, 2022).

Figure 57. Lerzan Özer, "Nature" and "sour Clover" Hatay Endemic Plant Project (Zümrüt, 2022).

Design And Patterns Created Using Some Endemıc Plants Within Kaz Mountain National Park

Kaz mountains is a region that possesses many significant values both for our country and the world in many aspects. Although less known for many of its characteristics, it is essential for its unique endemic plant presence, as well as hosting many other species endemic to Turkey.

In this study, sketches of some suitable plant species prioritized for design purposes among the endemic plant species within Kaz mountains national park were made using techniques such as charcoal, watercolor, and gouache. These drawings were made not based on scientific measurements like botanical illustrations but rather based on photographs obtained from scientific research. Therefore, during the design phase, not only the plants but also natural habitat images such as dry grasses seen in the background of photographs were used as design elements.

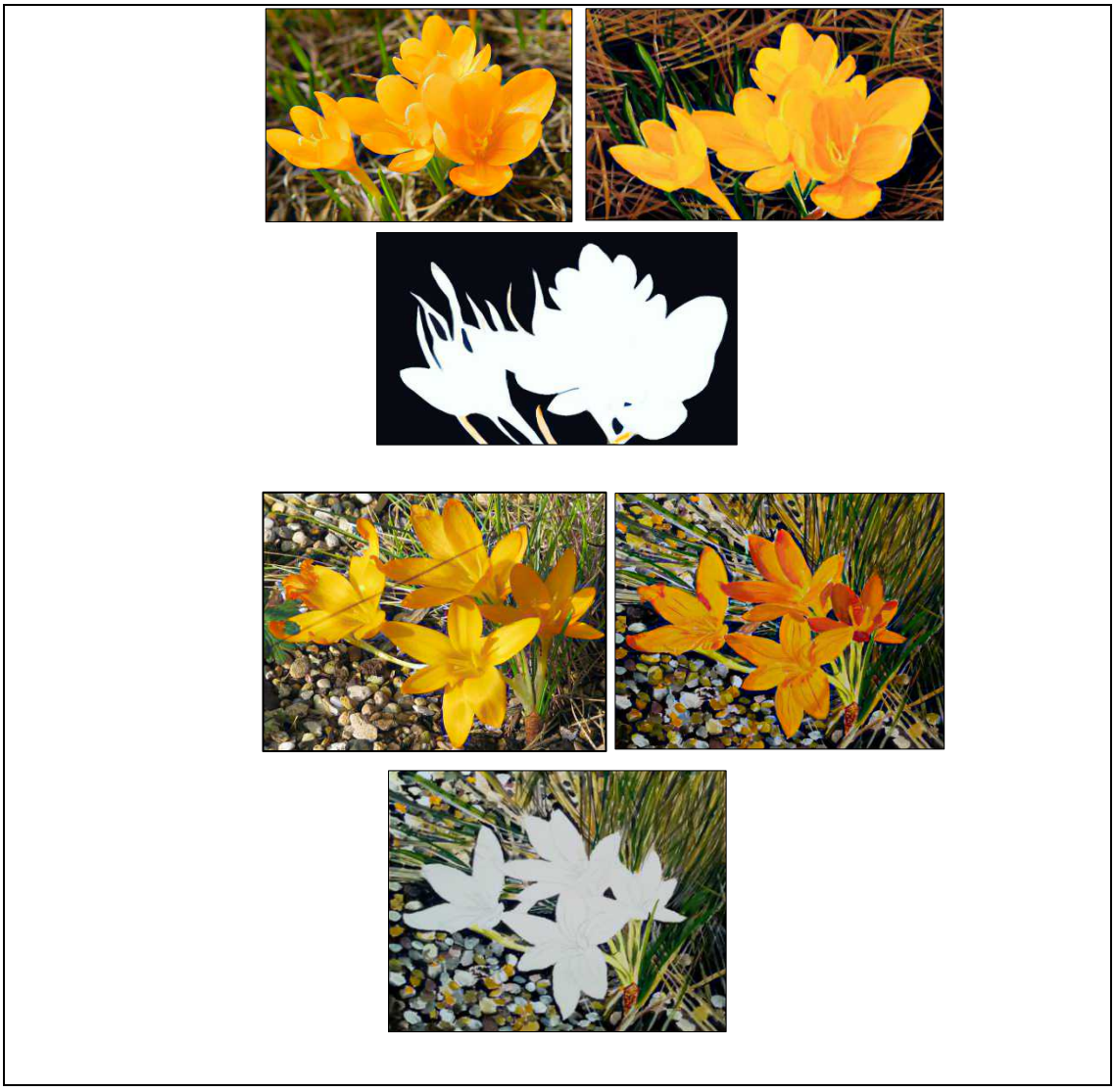


Figure 58. *Crocus gargaricus* Herbert subsp. *gargaricus* and various drawing techniques used in the studies (Çelik, 2021)

Figure 59. Watercolor studies of some endemic plants within Kaz mountain national park (Çelik, 2021)

Some species underwent classical technique preliminary studies, and then more graphical drawings were made using digital drawing programs such as Adobe Illustrator and Adobe Photoshop. These drawings also included seed and detail images as presented in scientific research, in addition to the plants and environmental images. In the subsequent stages, experiments were conducted on these drawings, including black-and-white, white-and-black, and colored images, all of which would be used as design elements.

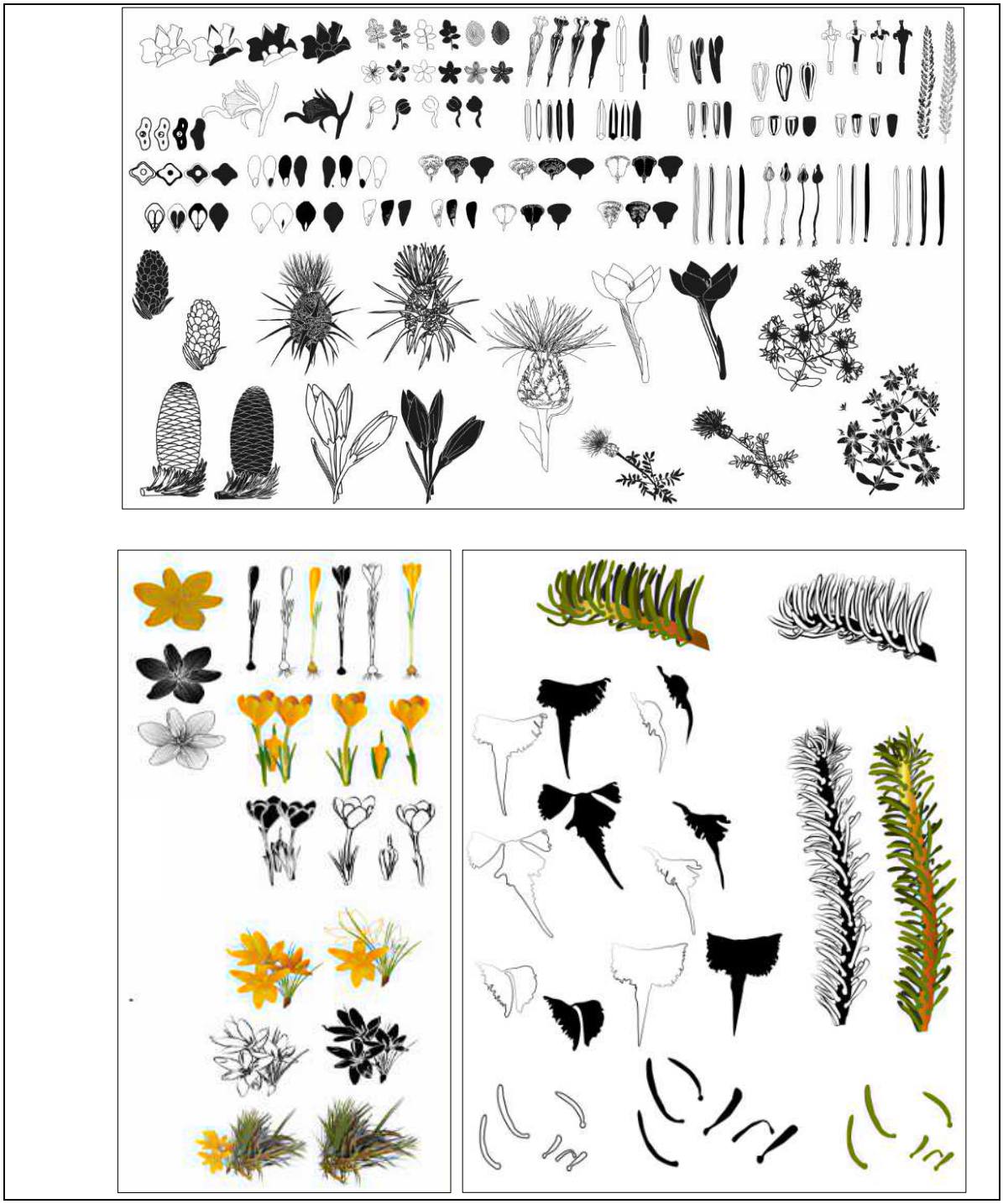


Figure 60: Adobe Illustrator drawings of some endemic plants within Kaz mountain national park (Çelik, 2021)

After the detailed and lengthy drawing stages mentioned above, the initial work was done on tableware ceramics. This choice was made because dining culture has a unifying quality across the world. A ceramic or porcelain dinner set made with designs of these plants can serve as a design material that easily reaches people of all ages and cultures worldwide, acting not only as a functional item but also as a visually stimulating promotional tool that feeds visual memory, even if not in

scientific terms. In this context, it is expected that the designs made with endemic plants from Kaz mountain national park within the scope of this research will create significant awareness.

Figure 61. Dinnerware design proposals (Çelik, 2021)

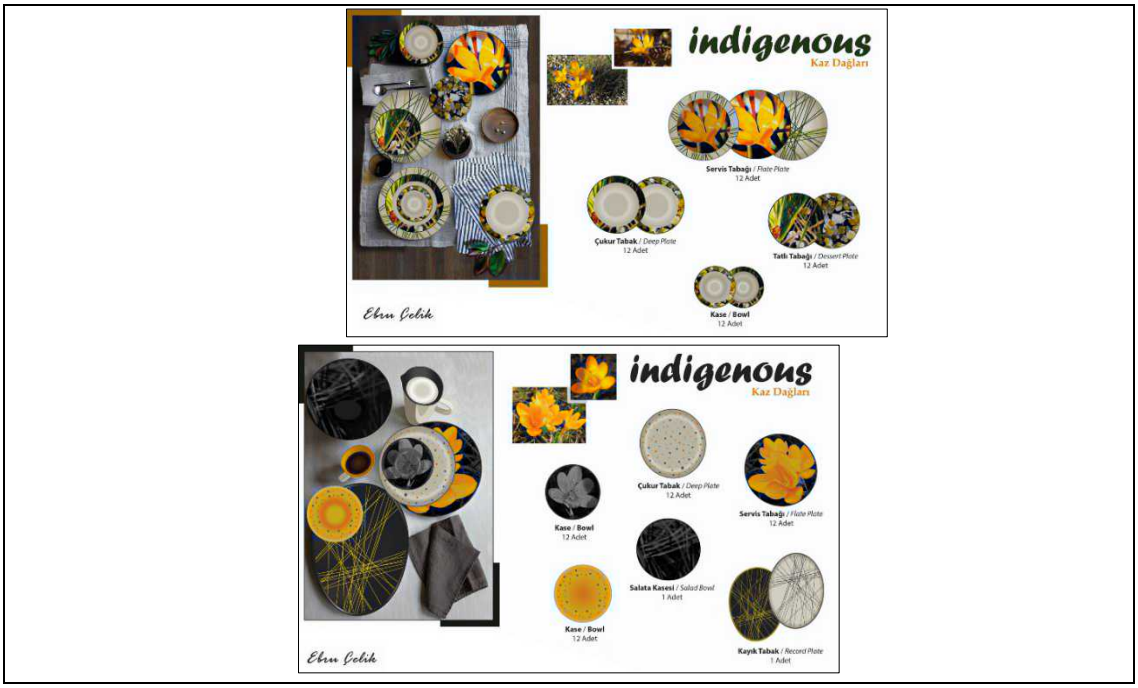


Figure 62. Design proposals for the Hisarlı Ahmet Symposium (Çelik, 2021)

Undoubtedly, pattern designs prepared for the textile sector, like tableware ceramics, can be used in various fields encountered by people everywhere. For instance, pattern designs found in clothing elements (t-shirts, dresses, pants, hats, etc.), in interior design (sofas, curtains, covers, carpets, etc.), become globally recognized especially during certain periods along with fashion trends. This means that a pattern prepared using these plants can become visible in a wide range of sectors and seen by numerous people.

Initially, drawings stylized and designed as design elements were created in accordance with "pattern reporting" rules using Adobe Illustrator program to convert them into pattern designs. Subsequently, with the assistance of Adobe Photoshop program, designs were applied to various items to exemplify their usage.

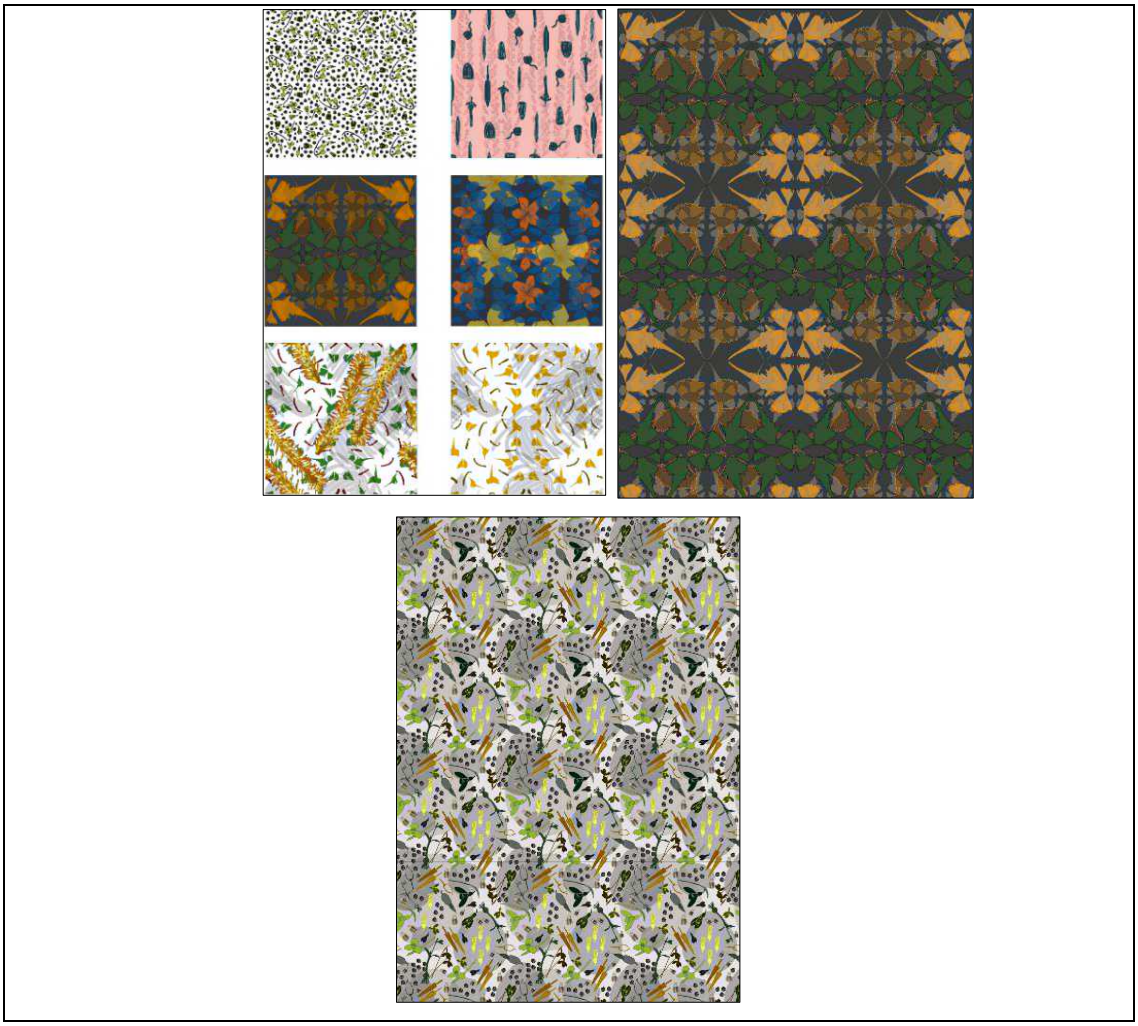


Figure 63. Pattern Reporting Examples.

Figure 64. Design proposals applied to various items (Çelik, 2021)

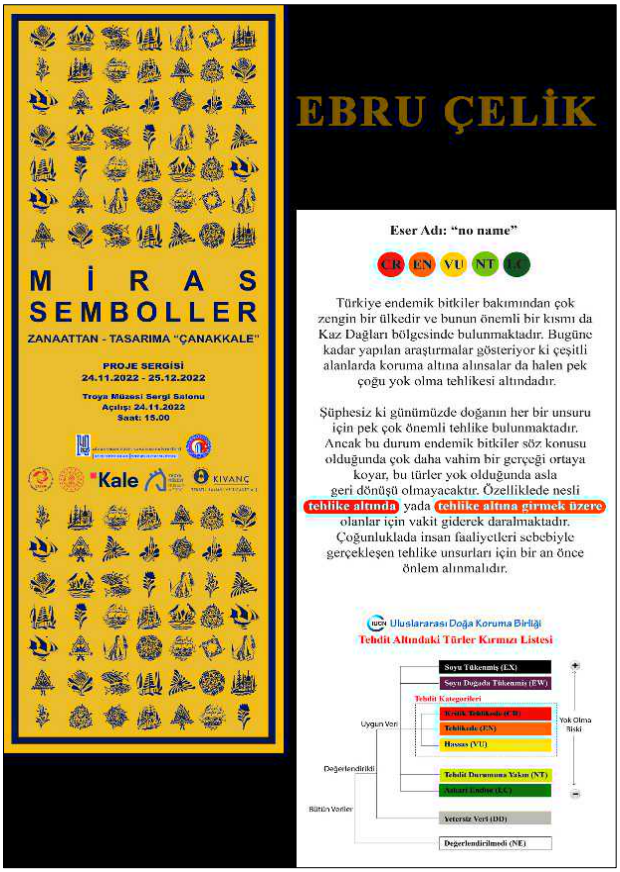
Figure 65. Clothing proposals designed for the "Indigenous" brand using endemic plant drawings and 2022 color trends combined (Çelik, 2021)

Figure 66. Clothing proposals designed for the "Indigenous" brand using endemic plant drawings and 2022 color trends combined (Çelik, 2021)

Certainly, any work encompassing tableware ceramics and textiles is approached with an artistic perspective during the design stage. These designs, whether for an art event or everyday items, remain in circulation constantly. However, a project directly prepared as an art piece affects different audiences. The awareness created by works prepared by an artist with a manifesto, aiming to highlight important issues, will have a more conscious impact. A good example of this can be seen in the exhibition "Craft to Design: 'Çanakkale' Heritage Symbols (2022)" held at the Troy Museum.

None of the flowers mentioned in the work are used in their exact visual or name forms. This is because the aim is not to draw attention to the beauty and uniqueness of endemic plants. The purpose of this work, based on scientific studies and literature, is to emphasize the situation of species in the Kaz mountain national park that are categorized as endangered and may be at risk if precautions are not taken. In this conceptual art piece, red clay is used directly to represent the environment where the plants grow. To illustrate the sensitivity of the situation, paper is added to the clay as an additive to create very delicately prepared 20x20 ceramic squares. These squares, which have danger categories written on them in glaze and are fired only once, are attached with safety pins. The reason for using safety pins, an object commonly used to hold things, in heavy ceramic material like this is to emphasize the fragility and sensitivity of these squares. Over time, these squares are expected to open due to their weight, fall to the ground, and break. Indeed, during the hanging of the artwork in the exhibition area, this happened, completing the artwork. Some of the squares with "LC" written on them, representing the least alarming danger category, fell and broke, clearly demonstrating what could happen to these plants if adequate protection is not provided.

Figure 67. Making stages of the artwork titled "No Name" emphasizing danger categories (Çelik, 2024)



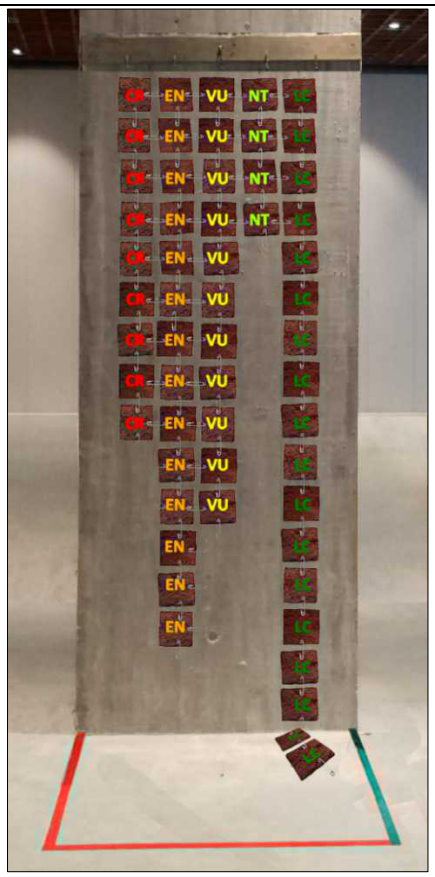


Figure 68. A digital example and installation stage of the artwork titled "No Name" (Çelik, 2024)

National parks or various conservation areas are established, but we often see that some plants suffer harm either due to the lack of scientific monitoring of their current status or because existing laws have rules that are not keeping up with the times. Consequently, we realize that even endemic plants, which we think are protected, can be harmed, and some of them may be very close to extinction. Therefore, the artwork prepared, also based on international danger categories, uses red clay in plastic form that is not fired. Because unfired clay can continue to live and transform, it contributes to the artwork. It can break, crumble, mold, and even disintegrate into dust, disrupting its integrity. Plastic protective bags, commonly used to protect textile products such as blankets and clothing in daily life, represent delimited protected areas in this work. The entire work consists of mud plates with danger situations written on them enclosed in five protective bags, gradually decreasing, and finally, the 6th empty bag labeled "EX" representing completely extinct plants. The work is prepared using both manual and digital methods.

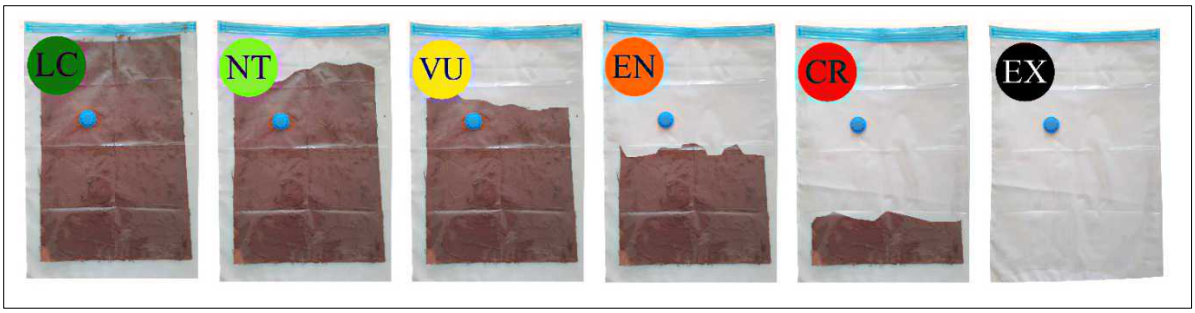


Figure 69. Artwork titled "EX"(Çelik, 2024)

Throughout the work and the main emphasis of all artworks, the situation of harm to endemic plants, as outlined in many scientific studies, mostly occurs due to human activities. Nature is full of organisms that can renew themselves and adapt to new conditions, even among endemic plants. However, unfortunately, human activities (fires, plant collection, visitor pressure, etc.) and their resulting effects lead to the inability to protect themselves, ultimately resulting in extinction.

To highlight this issue, another artwork using red clay is prepared. It consists of unfired ceramic mud squares of variable sizes, punched and crumpled, demonstrating obvious human destruction. These squares will be displayed by piling them on the ground in areas where visitors must walk. The goal here is to remind the viewer vividly of the consequences of their actions through a new destruction caused by stepping on these ceramic pieces. The aim is to create awareness about how even a simple picnic event can harm nature, all living beings within it, and specifically, endemic plants. Endemic plants cannot be reproduced or recreated once they are extinct. The damaged square piece examples for the arrangement are prepared manually, and the visual representation of their placement in the exhibition area is digitally prepared.

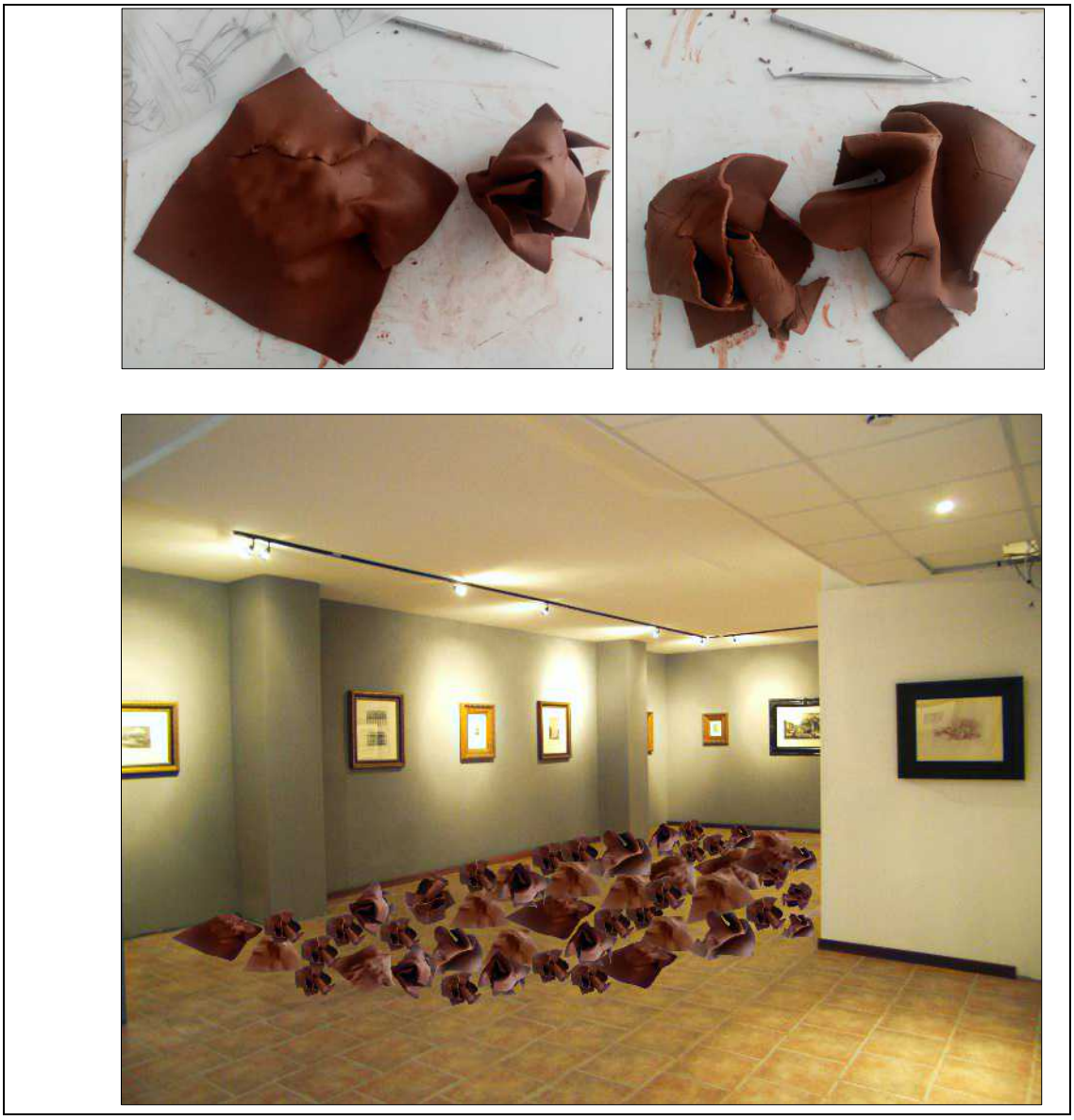


Figure 70. Some production visuals and a digital exhibition example of the artwork titled "No Name." (Çelik, 2024)

CONCLUSION

The conclusion emphasizes the significant factors such as plant collection, water resource usage, visitor pressure, pandemic-induced migration, fires, landfill sites, and others, which cannot be overlooked. While they may cause relatively small-scale harm in the long run, effective planning, public awareness, monitoring of businesses within the area, warning signs, deterrent penalties, and similar measures can address these issues and prevent them from leaving a lasting impact.

One of the significant reasons endemic plant species are endangered is the lack of understanding of their value outside the scientific community. For instance, a landowner may uproot

and destroy these plants believing that having an endemic plant on their land might result in government expropriation.

Any form of promotion or awareness-raising about the existence and status of these plants is invaluable. However, even well-meaning promotion can inadvertently accelerate the uncontrolled removal and destruction of these plants. Therefore, informative and awareness-raising activities conducted under the guidance of experts in this highly sensitive area would be much more beneficial.

Research, monitoring, information dissemination, and protection plans conducted by authorized and knowledgeable individuals can prevent these plants from becoming endangered or extinct in the near and distant future. Additionally, it is crucial to enact comprehensive new and updated laws for conservation/survival and revise penalties for non-compliance.

In academic publications across various disciplines, presentations, etc., as well as in artworks and designs, these plants can be used as a powerful tool for creating universal and unique awareness and ownership without harming their existence.

Declarations

Publication Information of the Manuscript: The present study was developed as a thesis at the Graduate School of Education at Çanakkale Onsekiz Mart University. It is a segment of a larger thesis on the same topic.

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Ethical Issues: This thesis has been written in accordance with the academic standards of honesty and integrity, and a similarity report has been provided using the Turnitin tool. The images included in the text have been properly referenced. The original designs and applications developed within the scope of this thesis are the intellectual property of the author.

REFERENCES

Anonim (2017). A Study of the Floristic Composition of Turkey. The Open Education Resources of Ankara University. Please find attached a PowerPoint presentation.

Akalın, O. (2007). Conservation Area Planning and Management. Turkish Ministry of Environment and Forestry.

Arpa, N.Y. (2012). The Role and Importance of Protected Areas in Preserving Biological Diversity. Proceedings of the Biodiversity Symposium, pp. 103-107.

Blossfeldt, K. (1928). (https://publicdomainreview.org/collection/karl-blossfeldt-s-urformen-der-kunst-1928/) Last Access Date : 25/06/2024

Chin, M. (1991-1993). The Field of Battle. Pig's Eye Waste Dump, Minnesota. (https://melchin.org/oeuvre/revival-field/) Last Access Date : 25/06/2024

Dirmenci, T., Özcan, T., Güner, Ö. ve Kalf, O. (2012). *Endemic and Rare Species of Kaz Mountain (Balıkesir/Çanakkale)*. Proceedings of the Biological Diversity Symposium, 22-23 May 2012, Ankara.

Gemici, Y., Seçmen, Ö., Ekim, T., & Leblebici, E. (1992). *Endemism in Turkey and Some Endemics of İzmir Region*. Aegean Geography. 6(1). 61-83.

Meydan, A., & Kanat, M. (Eds.). (2016). Turkey's Vegetation, Geography and Geopolitics. Nobel Publishing, Ankara.

Morris, W. (1834-1896). (https://www.vam.ac.uk/articles/william-morris-and-historical-design) Last Access Date : 25/06/2024

Poyraz, M. (2013). *Ecological Risk Assessment for Kaz Mountain National Park* (Master's thesis). Balıkesir University. Institute of Social Sciences. Department of Geography. Balıkesir.

Turkish Official Gazette. 21555: p. 14. 1993.

Tümen, G., Satıl, F., Dirmenci, T. ve Soykan, A. (2002-2004). The flora and physical environment of Kaz Mountain National Park. The project, which received support from the TÜBİTAK-YDABAG Group, was conducted, Balıkesir.

Turkey Soil Erosion Control, Afforestation and Natural Assets Conservation Foundation (2020). Mining Report for Kaz Mountains Region. Istanbul. April 2020.

Vural M. ve Ekşi G. (2017). Flora Richness in Turkey. Botanical Illustration. (https://www.zdergisi.istanbul/?sayi=1.) Last Access Date : 21/06/2024

Zümrüt, Y. (2012). Evaluation of Ecological Art Emerged After 1960 in Terms of Goals and Concepts. (Published Art Proficiency Thesis). *Mimar Sinan Fine Arts University. Faculty of Social Sciences*.

Zümrüt, Y. (2022). Contemporary ceramic art as an expression of human and natural processes: the theme of flowers. *International Social Mentality and Researcher Thinkers Journal*, (Issn:2630631X) 8(60): 1023-1047.