UK Plan to Transfer Cyrus Cylinder to Occupied Palestine?

Persian King Cyrus declared his doctrine of coexistence and tolerance on the football-size clay cylinder in the sixth century B.C.

TEHRAN -- **In a letter to the Ministry of Foreign Affairs, the Iranian Ministry of Cultural Heritage, Tourism, and Handicrafts has expressed deep concern about reported plans by the British Museum to transfer the ancient Cyrus Cylinder to the Israeli library.**

Hadi Mirzaei, director general of the General Office of Museums, raised concerns in separate letters addressed to Amir-Hussein Gharibnejad, vice president for Cultural Cooperation at the Ministry of Foreign Affairs, and Ali-Akbar Mottakan, secretary-general of the National Commission for UNESCO-Iran.

"According to reports, the British Museum plans to transfer the Cyrus Cylinder, currently on display in the United States, to the national library of the occupying regime in Al-Quds from October 4 to November 28, 2024," the letter read.

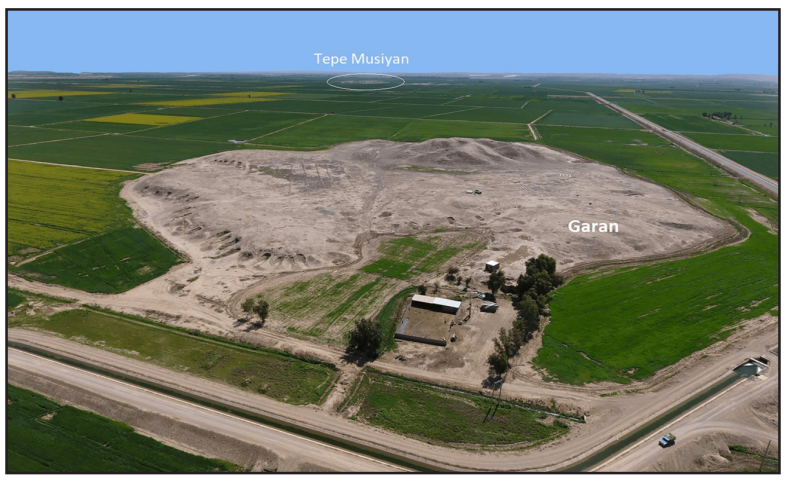
"The transfer of this historical artifact, which holds global significance, will undoubtedly be inappropriate due to potential risks associated with it," it added.

Mirzaei also highlighted Iran's intellectual property rights over the Cyrus Cylinder and demanded a ban on its transfer, as well as legal actions based on the 1945 Convention for the Protection of Cultural Property.

The Cyrus Cylinder, a relic from the Achaemenid dynasty, is considered the earliest and most ancient declaration of human rights, constituting a part of the identity and civilization of Iranians.

Many of the fundamental principles of the Universal Declaration of Human Rights, adopted by the United Nations General Assembly in 1948 and serving as a basis for subsequent human rights agreements, were derived from the Cyrus Cylinder.

Brick in Dehloran May Reveal Elamite Water Supply System



TEHRAN -- **Archaeologists discovered a brick inscribed with Akkadian script, marking the Elamite water supply system, alongside some intricately patterned bricks in Iran's Dehloran Valley.**

This discovery sheds light on the political and economic significance of the ancient site of Garan, located on the western border of Elamite civilization.

According to ISNA, the findings were reported during a specialized session titled "Representation of Dehloran Valley's Perspective; Based on the Discoveries of Garan Mound," organized by the Institute of Archaeology.

Tappeh Gārān (locally pronounced Gharrān) is a large mound in the Deh Luran plain, about 3 km east of the Dawairij River and 2.8 km north/northwestern of Tappeh Musiyan.

Researchers believe that the written objects found at Gārān consist of Akkadian scripts and geometric patterns thought to illustrate the outlines of an agricultural scheme.

Frank Hole, Kent Flannery, James Neely, and Henry Wright conducted historic archaeological work in the Deh Luran plain in southwest Iran nearly 50 years ago. In 2016 and 2019, the area was resurveyed to determine whether agricultural and increased irrigation activities had destroyed any archaeological sites.

During the surface survey on Gārān Mound two inscribed objects were found. The inscriptions yield some information on the economic and political importance of Tappeh Gārān in the Old Elamite Period.

"Garan, situated in the Dehloran Valley within the modern province of Ilam and on the southwestern plateau of Iran, covers an area of 17 hectares. It features a prominent cone-shaped elevation in the south of the site, surrounded by several irregular mounds to the east, north, and west of the main prominence," said Mohsen Zeinivand, an archaeologist involved in the excavation.

Zeinivand highlighted the exceptional importance of Garan in archaeological studies of the region due to its organized human habitation sequence from the late ancient periods to the end of the historical era.

It transformed into the largest settlement in the second millennium BC until the late Achaemenid period, holding extraordinary significance in the archaeology of the area, the archaeologist said.

Regarding recent examinations of the site, Zeinivand explained: "Surface surveys identified numerous broken bricks with possible inscriptions. Although the inscriptions on these brick fragments were not easily decipherable due to weathering and erosion, one sample revealed partially readable words such as 'ruler,' 'son,' and 'his lord,' suggesting Akkadian language."

According to Zeinivand, the lines on

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Leader Condoles Passing of Prominent Philosopher

TEHRAN -- **Leader of the Islamic Revolution Ayatollah Seyyed Ali Khamenei expressed his condolences on the passing away of prominent Iranian philosopher Dr. Karim Mojtahedi, emphasizing that deep knowledge, a critical view of Western culture and the training of many students were among his characteristics.**

"I offer my condolences to the academic community of the country and his sage students and the Mojtahedi family of Tabriz on the passing away of Mr. Dr. Karim Mojtahedi," the Leader said in his message.

Born in 1930 in Tabriz in northwestern Iran, Mojtahedi dedicated his entire life to scholarly pursuits. He passed away at the age of 93.

In this file photo, Ayatollah Khamenei meets prominent philosopher Dr. Karim Mojtahedi.

He studied and received his BS, MA, and PhD in Philosophy from France's Sorbonne University before returning to Iran at the age of 34.

In 2001 Mojtahedi was inducted into the Iranian Science and Culture Hall of Fame, also known as the Ever-lasting Names. In 2010, he received UNESCO's Avicenna Gold Medal. Subsequently, he was honored as a Distinguished Professor by Iran's National Elites Foundation.

Throughout his six decades of scientific exploration, Mojtahedi authored over 20 books on philosophy, including Hegel's Thoughts, Descartes and his philosophy, Philosophy of history and Kant's critical philosophy.

Genetic Secrets of Drought Resilience in Persian Walnuts

LONDON (Phys.org) -- **The walnut (Juglans regia L.), which was domesticated in ancient Persia, is a globally cultivated nut crop. With global water scarcity, walnut production is facing significant challenges due to abiotic stresses, especially drought. Photosynthesis is a key physiological mechanism involved in adaption to abiotic stresses and regulation of plant development.**

Research has mainly focused on the physiological effects of drought on walnut, but the molecular mechanisms are not fully understood. Many new genomic tools have been extensively used for investigating genomic diversity and association mapping in walnut.

Persian walnut reference genome and SNP genotyping arrays have facilitated advanced genomic studies, including QTL mapping and genome-wide association studies (GWAS).

Techniques like genotyping-by-sequencing (GBS) and restriction site-associated DNA sequencing (RADseq) approaches have the potential to generate large marker datasets. However, many small effect SNP markers are always ignored and most of the genetic variants contributing to the trait remain hidden. Therefore, complementary methods like gene set enrichment analysis could provide deeper insights into the molecular mechanisms of walnut's response to drought stress.

In June 2022, Horticulture Research published a research article titled "Genome-wide association analysis and pathway enrichment provide insights into the genetic basis of photosynthetic responses to drought stress in Persian walnut."

Firstly, this research explored natural variation in photosynthetic traits utilizing 150 walnut families (1,500 seedlings) from Iran's major walnut-growing regions. They assessed under control, water-stress, and recovery conditions for 30 photosynthetic-related traits, largely categorized into two main categories (gas exchange and chlorophyll fluorescence measurements).

The results showed that high phenotypic variation among families, with most traits displaying a near-normal distribution. Significant genotypic variation was noted in both categories of photosynthetic trait across treatments, except for some gas exchange parameters (Ci and Ci/Ca under drought recovery) and chlorophyll fluorescence measurements (VI under drought, FI and FM under recovery). Most of the photosynthetic traits showed substantial reductions under drought stress. Significant correlations were observed among traits under drought conditions.

To further explore the key parameters and provide an integrated view of the relationships among traits within populations, principal component analysis (PCA) on all photosynthetic traits of the 140 families during stress was performed. The first five components (PC1–5) cumulatively explained over 90% of total variation for the photosynthetic traits across the panel under severe drought, with the first component (PC1) significantly correlated with water relation parameters and FV/FM index.

In SNP calling and population structure analysis, genomic data from 95 mother trees and 150 families were used. The Array-scored SNPs were categorized into six default groups.

PCA and population structure estimates for each set of panels genotyped through GBS, and the panels were divided into four main clusters based on geographical locations.

The Genome-Wide Association Study (GWAS) identified 198 (34%), 228 (40%) and 152 (26%) significant associations for at least one photosynthetic-related trait under all conditions using the MArray, MGBS and PGBS datasets, respectively. Then, the BLASTX results showed out of 578 and 1,543 significant and suggestive SNPs identified by GWAS.

Most of the SNPs located within or nearby the genes which were involved in the regulation of photosynthesis and drought tolerance. Gene-set enrichment and network analysis extracted genes around significant and suggestive SNPs, identifying several KEGG pathways and GO terms relevant to drought tolerance and photosynthesis. Enriched pathways were related to metabolic processes including carbohydrate metabolism, amino acid metabolism, lipid metabolism, energy metabolism and signal transduction.

Lastly, the protein-protein interactions identified hub genes involved in photosynthesis and drought response, providing insights into genetic controls of photosynthetic traits under varying conditions in Persian walnut.

In summary, these findings underscore the potential of natural photosynthetic variation in walnuts as a valuable resource for breeding and engineering more efficient photosynthesis, particularly in the context of climate change and water scarcity.

This research not only sheds light on walnut's physiological and genetic adaptation to drought but also provides a foundation for future walnut breeding programs focused on improving drought tolerance.

Picture of the Day

After the first overdue snowfall of winter, which reached more than 60 cm in some places, the people of Ardabil went to the heights around the city for snow tubing.

Photo by Mehr News