



# A botanical perspective on the Portuguese crown jewels – the golden fleece insignia

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**Ethnobotany Research and Applications 30:4 (2025)** - <http://dx.doi.org/10.32859/era.30.4.1-13>

Manuscript received: 22/12/2024 – Revised manuscript received: 04/01/2025 - Published: 06/05/2025

## Notes on Ethnobotany

### Abstract

The Royal Treasury Museum in Lisbon has one of the most impressive collections of jewels in Europe, comprising around one thousand pieces. Many of these jewels feature intricate designs inspired by stylized plants. Studying them offers valuable insight into the symbolic use of plants in former societies and their connection to classical symbolic codes. One of the collection's most precious treasures is the insignia of the Order of the Golden Fleece, crafted in the early 19th century. It is adorned with 1,741 diamonds (exceeding 300 carats), 190 rubies, and a single sapphire, all arranged in the shapes of palm leaves, laurel branches, and oak fruits. These elements allude not only to the Portuguese monarchy but also evoke the heritage of Greco-Roman civilization and Christian doctrine.

### Keywords

Portuguese crown jewels, golden fleece insignia, palmette, date palm, laurel, oak, carat, Royal Treasure Museum.

### Order of the Golden Fleece Insignia

In the morning of November 1st, 1755, the city of Lisbon, capital of Portugal, was shaken by a violent earthquake that may have reached a magnitude between 8 to 9 on the Richter Scale. The earthquake was followed by a tsunami and a fire that consumed the city for days. The Royal Palace, located on the right bank of the River Tagus (Tejo), was razed, and all its heritage, assembled over centuries, such as the library, thousands of manuscripts and works of art, including the collection of jewels, were lost (Molesky 2015). With circa 80-90% of the buildings destroyed, Lisbon was now a new Troy, about which naturalists, theologians, and philosophers wrote, such as Voltaire, in his famous '*Poème sur le Désastre de Lisbonne*' [Poem on the Lisbon Disaster, 1756] (Voltaire 2009) interpreted as an introduction to his acclaimed novel *Candide* (1759), that deals with the problem of evil and the optimism.

The Royal Family survived because King Dom José (1714-1777) decided to spend the day out, at Belem Palace, located in what was then the outskirts of Lisbon. After the earthquake, the King was determined never to live in a stone palace again and so a new building, nicknamed the Royal Tent of Ajuda (*Real Barraca da Ajuda*), was built with materials that could withstand a cataclysm, such as wood and plaster. In 1794, this building was burned down, leading, once again, to the loss of royal heritage (Serrão 1982).



Figure 1. Order of the Golden Fleece insignia, c.1800. Royal Treasure Museum, Lisbon.



Figure 2. Prince Dom João, regent of Portugal and Brazil, with a golden fleece insignia (not the one that is now in the museum). Golden laurel branches are embroidered on the jacket and cloak. Portrait attributed to José Leandro de Carvalho (1770-1834). Museu Histórico Nacional (469), Rio de Janeiro, Brazil.



In this historical context, the Royal Family commissioned a dazzling jewel, notable for its quality and precious stones, as it is considered the most notable jewel-insignia of the Order of the Golden Fleece in the world (Figure 1), with circa 1,741 diamonds, weighing over 300 carats (the largest diamond weighs 22 carats), 190 rubies and one sapphire, weighing 35.75 carats. This piece, traditionally attributed to the jeweller Davis Ambrósio Pollet (c.1745-1822), and dated c.1790, is now considered to have been made around 1800, by another jeweller, yet to identify (Teixeira 2022). This insignia was commissioned by Prince Dom João (1767-1826) (Figure 2), who was regent of Portugal and Brazil from 1799 to 1816, due to the melancholic illness of the sovereign, Queen Dona Maria I (1734-1816).

The Order of the Golden Fleece was established by Philip III, the Good (1396-1467) (Figure 3), Duke of Burgundy (from 1419), on his marriage (1430) to Isabel of Portugal (1397-1471) (Figure 4), and currently has two branches: the Spanish and the Austrian. There is no consensus on why Philip chose the myth of the golden fleece, a story that has roots in the Greek myths and heroes (Brown & Druk 2007).



Figure 3. Philip III, the Good, Duke of Burgundy. Oil on oak wood. Copy of a lost painting (c.1455) by Rogier van der Weyden (1399/1400-1464). Musée des Beaux-Arts, Dijon.



Figure 4. Isabel of Portugal by Rogier van der Weyden (workshop of). Oil on oak wood (c.1450). J.Paul Getty Museum

The golden fleece was a symbol of authority and kingship and, according to the myth, it was once the fleece of the golden winged ram that saved Phrixus, and his sister Hellen, both children of Athamas, King of Boeotia, from a life-threatening plot planned by their stepmother. While flying over Europe to Asia, Hellen fell and drowned in a place now called Hellespont, but Phrixus arrived safely to Colchis, in modern day Georgia. Upon arriving, Phrixus sacrificed the ram to Zeus and gave its fleece to King Aeëtes. The sovereign kept the golden fleece in a grove of oaks sacred to the god Ares (Mars), from where it was later stolen by Jason and the Argonauts, with the help of King Aeëtes' daughter – Medea. Jason needed the golden fleece to reclaim his rights to the throne of Iolcus, in Thessaly, that his uncle promised him, if he was able to obtain the golden fleece (Grimal 1991).



The jewel-insignia of the Order of the Golden Fleece, now housed in the Royal Treasure Museum (*Museu do Tesouro Real*), in Lisbon, has three plant elements: a palmette that occupies its centre and whose design is traditionally linked to the leaves of the date palm (*Phoenix dactylifera* L.), hence its name 'palmette'; laurel branches (*Laurus nobilis* L.) surrounding the central motif, and fruits of the oak (genus *Quercus* L.) attached to the laurel branches. Its botanical study contributes to understanding the symbolic uses of plants, within the Portuguese society in the early 19th century, and its links with the Greco-Roman World, as well as with the Christian traditions.

The etymology of the genus *Phoenix* L. evokes the Greek *phoînix* (Latin *phoenix*), the classical name given to the date palm (*Phoenix dactylifera* L.), to its fruits and its leaves. This etymology alludes, in turn, to the Greek *Phoinikē* (Latin *Phoenicia*), the classical name of Phoenicia. This connection is probably related to the fact that Phoenicians may have introduced date palms to Greece. The epithet *dactylifera* derives from the Greek *dactylon* (Latin *dactylus*) = finger or something like a finger, and the Greek *phérō* (Latin *fero*) = to produce, generate or carry, alluding to the edible fruits (dates) produced by the date palm.

The palmette is a common motif in decorative arts and was created in Ancient Egypt (Figure 5), most probably inspired by the blue waterlily flowers (*Nymphaea caerulea* Savigny), the symbol of Upper Egypt (Figure 6) or by the inflorescence of papyrus (*Cyperus papyrus* L.), the symbol of Lower Egypt (Figure 7) (Jones 1868, Riegl 1992, McDonald 2018). Other cultures neighbouring Egypt used this pictorial motif, such as the Assyrians (Figure 8) and the Greeks. The Greeks named it *anthemion* [Greek *ánthemon* (*ánthos*) = flower] and used it to decorate temple friezes (Figure 9), ceramics (Figure 10), artifacts (Figure 11) as well as jewellery.



Figure 5. Palmette Mold (pottery), Egypt, New Kingdom, Reign of Amenhotep III (c.1390–1352 B.C.), Thebes, Malqata, Palace of Amenhotep III, MMA excavations, 1910-1911, Rogers Fund, 1911, Metropolitan Museum of Art (New York) 11.215.710

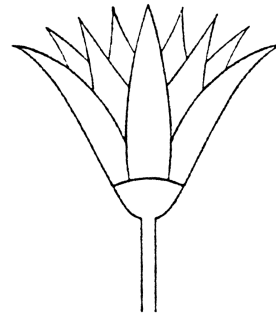


Figure 6. 'Lotus' pattern (in fact, a waterlily, not a true lotus). Adapted from *Problems of Style* (1992) by Alois Riegl (1858-1905).

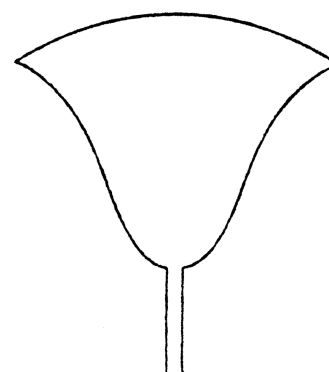


Figure 7. The so-called papyrus pattern (up), adapted from *Problems of Style* (1992) by Alois Riegl (1858-1905), and a comparative drawing (left) between the papyrus (left, top) and lotus patterns (left, bottom), adapted from *The Grammar of Ornament* (1868) by Owen Jones (1809-1874).



Figure 8. (left) Ivory plaque fragment, Neo-Assyrian, c. 9th-8th century BC, Mesopotamia, Nimrud (ancient Kalhu), Rogers Fund, 1952, Metropolitan Museum of Art (New York) 52.23.10.

Figure 9. (below) Ionic frieze of the *Erechtheum* (Athens) with palmette motives, circa 410 BC, Glyptothek Museum (Munich, Germany). Photo by Daderot, Wiki Commons.



Figure 10. Greek (Attic) terracotta kylix (drinking cup), with palmette motives. Archaic Period, c.510 BC, Fletcher Fund, 1956, Metropolitan Museum of Art (New York) 56.171.61.



Figure 11. Greek bronze handles of a hydria (water jar) with palmette motives. Archaic Period, early 5th century BC, Samuel D. Lee Fund, 1938, Metropolitan Museum of Art (New York) 38.11.11a-c.

In the context of the Christian art, date palm leaves were a symbol of martyrdom – an allusion to the triumph of faith over death –, and its fruits were a symbol of hospitality. This Christian symbology (leaves and fruits) has many sources, but a Christian text in which it is clearly referred to are the chapters 20 and 21 of the Latin *Gospel of Pseudo-Matthew*, dated to the first half of the seventh century: *'Then the child Jesus, with a joyful countenance, reposing in the bosom of His mother, said to the palm: O tree, bend thy branches, and refresh my mother with thy fruit. And immediately at these words the palm bent its top down to the very feet of the blessed Mary; and they gathered from it fruit, with which they were all refreshed'* (...) *'Jesus turned to the palm, and said: This privilege I give thee, O palm tree, that one of thy branches be carried away by my angels, and planted in the paradise of my Father. And this blessing I will confer upon thee, that it shall be said of all who conquer in any contest, You have attained the palm of victory. And while He was thus speaking, behold, an angel of the Lord appeared, and stood upon the palm tree; and taking off one of its branches, flew to heaven with the branch in his hand. And when they saw this, they fell on their faces and became as it were dead. And Jesus said to them: Why are your hearts possessed with fear? Do you not know that this palm, which I have caused to be transferred to paradise, shall be prepared for all the saints in the place of delights, as it has been prepared for us in this place of the wilderness? And they were filled with joy; and being strengthened, they all rose up.'* (Roberts et al. 1886).

In Ancient Greece, palm leaves were also a symbol of triumph, as wrote in classic texts, such as in the *Description of Greece* (Book 8: 48.2-3] by Pausanias: *'The reason why at Olympia the victor receives a crown of wild-olive I have already explained in my account of Elis; why at Delphi the crown is of bay I shall make plain later. At the Isthmus the pine, and at Nemea celery became the prize to commemorate the sufferings of Palaemon and Archemorus. At most games, however, is given a crown of palm, and at all a palm is placed in the right hand of the victor. The origin of the custom is said to be that Theseus, on his return from Crete, held games in Delos in honour of Apollo, and crowned the victors with palm. Such, it is said, was the origin*



of the custom. The palm in Delos is mentioned by Homer in the passage where Odysseus supplicates the daughter of Alcinous' (Pausanias 1918).

An ornamental motif somehow close to the palmette is the one representing a stylized acanthus leaf (*Acanthus spinosus* L.). This motif characterizes Corinthian capitals (Figure 12) and is omnipresent in many Christian works, particularly in Christian church ornaments and in the European classical revival architectural movement of the 19th and early 20th centuries.

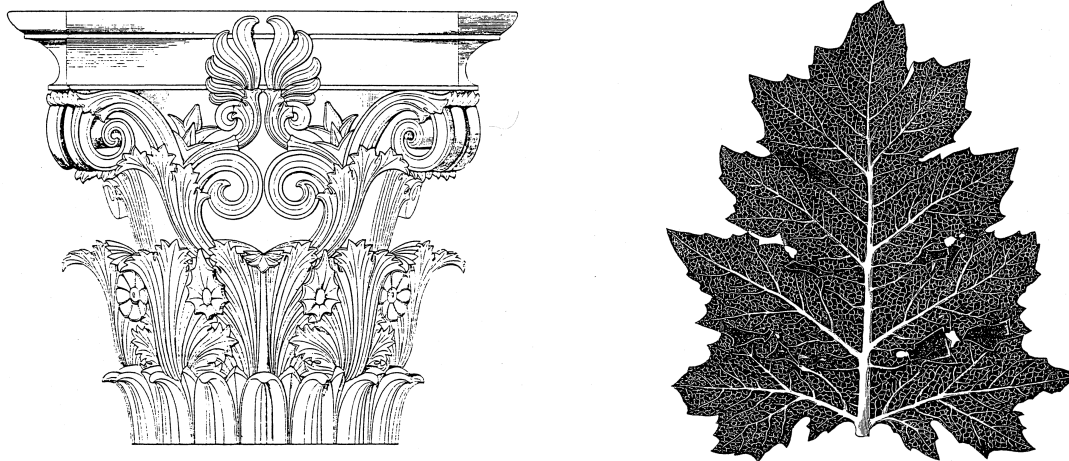


Figure 12. Corinthian capital with acanthus leaves and half-palmettes, from the Choragic Monument of Lysicrates in Athens (left) and acanthus leaf (right). Adapted from *Problems of Style* (1992) by Alois Riegl (1858-1905).

The Roman architect Vitruvius (c.80/70 BC-c.15 AD), in his work *De Architectura Libri Decem* (Book 4, Chapter 1), refers to an episode that tradition accepted as being the origin of the inspiration for the Corinthian capitals: 'It is related that the original discovery of this form of capital was as follows. A free-born maiden of Corinth, just of marriageable age, was attacked by an illness and passed away. After her burial, her nurse, collecting a few little things which used to give the girl pleasure while she was alive, put them in a basket, carried it to the tomb, and laid it on top thereof, covering it with a roof-tile so that the things might last longer in the open air. This basket happened to be placed just above the root of an acanthus. The acanthus root, pressed down meanwhile though it was by the weight, when springtime came round put forth leaves and stalks in the middle, and the stalks, growing up along the sides of the basket, and pressed out by the corners of the tile through the compulsion of its weight, were forced to bend into volutes at the outer edges. Just then Callimachus, whom the Athenians called κατὰ τὴν τέχνην for the refinement and delicacy of his artistic work, passed by this tomb and observed the basket with the tender young leaves growing round it. Delighted with the novel style and form, he built some columns after that pattern for the Corinthians, determined their symmetrical proportions, and established from that time forth the rules to be followed in finished works of the Corinthian order' (Vitruvius 1914).

Although this story is the canonical version commonly accepted to justify the origin of acanthus in the Corinthian capitals, some authors believe that the 'acanthus leaves' motif derives from an evolution of the palmette, as Alois Riegl (1858-1905) wrote in the book *Problems of Style* (Riegl 1992, p. 195): 'In my opinion, the acanthus ornament was originally nothing more than a palmette or, in some cases, a half palmette adapted to sculpture in the round'.

The palmette was a very common motif in jewellery created during the 19th century and in the first half of the 20th century, as can be seen in the tiaras worn by European royal families, namely the *Devonshire Palmette Tiara* (Figure 13), used at the Coronation of Queen Elizabeth II (1953), by Mary Cavendish, Duchess of Devonshire, who was Mistress of the Robes to the Queen. The Dukes of Gloucester collection of jewels includes a tiara, that once belonged to Queen Mary (1865-1953), known as the *Gloucester Honeysuckle Tiara* (Figure 14) because the palmette motif is sometimes said to have been inspired by honeysuckle flowers (genus *Lonicera* L.) (Figure 15), which reinforces the variety of interpretations this artistic motif allows.



Figure 14. Queen Mary (1867-1953) wearing the *Palmette* or *Honeysuckle Tiara* (c.1920). Gelatin silver print photo by Lambert, Weston & Son, Dover & Folkestone, Royal Collection Enterprises Limited 2024, Royal Collection Trust.



Figure 13. Devonshire *Palmette Tiara*. Chatsworth House Trust.



Figure 15. Honeysuckle (*Lonicera periclymenum* L.). Billeder af Nordens Flora Vol. 1: Plate 66, 1917-1923. Biodiversity Heritage Library.

The etymology of the genus *Laurus* L. goes back to the Latin *laurus* = the classical name given by the Romans to the laurel tree (*Laurus nobilis* L.). The Greeks called it *daphne* because they believed laurel was the metamorphosis of the nymph Daphne, whom Apollo loved and consecrated to his cult. In his *Natural History*, Roman author Pliny refers to the laurel as an attribute of Apollo, among a list of trees consecrated to the gods [HN 12.2 *The different kinds of trees are kept perpetually dedicated to their own divinities, for instance, the winter-oak to Jove, the bay to Apollo, the olive to Minerva, the myrtle to Venus, the poplar to Hercules*] (Pliny 1960) and at the Oracle of Delphi (Greece), the Pythia held a laurel branch, and a bowl with water, during her prophetic trance (Figure 16). Also in the *Natural History*, Pliny, who died during the eruption of Vesuvius while trying to rescue inhabitants of Pompeii, mentions some traditions concerning the laurel, including why the Emperor Augustus, and subsequent emperors, paraded with a laurel wreaths [HN 15.40 *When Livia Drusila, who afterwards received the name of Augusta on her marriage, had been betrothed to Caesar, while she was seated an eagle dropped into her lap from the sky a hen of remarkable whiteness (...) [and it] was holding in its beak a laurel branch bearing its berries. So the augurs ordered that (...) the branch should be planted in the ground and guarded with religious care (...) the laurel grove so begun has thriven in a marvellous way. Afterwards the Emperor when going in a triumph held a laurel branch from the original tree in his hand and wore a wreath of its foliage on his head (...) in consequence of this that the change was made in the laurels worn in triumphs*] (Pliny 1960). The epithet *nobilis* refers to the Latin *nobilis* = famous, noble, notable, and alludes to the high prestige of this species, which was used to crown the winners of the Pythian Games and, later, the Romans would made its branches a symbol of Glory.



Laurel branches are ubiquitous in representations of Portuguese sovereigns (Figure 17) and in statues and monuments from the 19th and early 20th centuries, scattered throughout Lisbon and Portugal. Perhaps the best-known Portuguese monumental statue, in which laurel wreaths have a preponderant symbolism, is the Augusta Street Arch (*Arco da Rua Augusta*), in Lisbon (1873), which is topped by a group of sculptures by Célestin Anatole Calmels (1822-1906), a French sculptor who lived and worked in Portugal and was one of the most prominent sculptors of his day. This set of sculptures represent *Glory crowning Genius and Valor* with laurel wreaths (Figures 18-19). In Lisbon, another well-known statue with laurels is the monument to the poet Luís de Camões (1867) by Vítor Bastos (1830-1894) (Figures 20-21).



Figure 16. The only surviving image of the Delphic Pythia. Aegeus, the mythical king of Athens, consulting the oracle. Attic red-figure kylix, c. 440–430 BC, Berlin Museum, inv. 2538.



Figure 17. Prince John (Dom João), regent of Portugal and Brazil, crowned with laurels. Commemorative medal (1809) of the capture of Cayenne from the French. Royal Treasure Museum, Lisbon.



Figure 18. *Glory crowning Genius and Valor* at the top of Augusta Street Arch (Lisbon, 1875), sculptures created by Célestin Anatole Calmels (1822-1906). Private collection



Figure 19. Augusta Street Arch (Lisbon). Mid-20th century postcard. Private collection.



Figure 20. Statue to Luís de Camões crowned with laurels (Lisbon, 1867) created by Vítor Bastos (1830-1894). Photo by Hydebrink (Shutterstock).



Figure 21. Monument to Luís de Camões (Lisbon). Early 20th century postcard. Private collection.

The etymology of *Quercus* Tourn. ex L. has its origin in the Latin *quercus*, the classical name given to oaks, especially the species *Quercus robur* L.. In Ancient Greece, oaks were sacred to Zeus and trees of the species *Quercus ithaburensis* Decn. subsp. *macrolepis* (Kotschy) Hedge & Yalt. were used, at the Oracle of Dodona, for dendromancy – divination through observation of the position of leaves on trees and interpretation of the sound that the wind produced in them (Mendonça de Carvalho *et al.* 2011).

The Roman poet Ovid [Publius Ovidius Naso] (43 BC-c.18 AD) refers in the *Metamorphoses* [Book I 90-108] to what human food was like during the Golden Age, which included acorns:

*Golden was the first age, a generation  
That cultivated trust and righteousness  
All on its own, without any laws, without fear  
Or punishment (...)  
Men gathered arbut, mountain strawberries,  
Wild cherries, blackberries clinging to brambles,  
And acorns that fell from Jove's spreading oaks.  
Spring was eternal, and mild westerly breezes  
Soughed among flowers sown from no seed.  
(Ovid 2010)*

In the context of Christian symbolism, oaks are attributes of the Virgin Mary, the Cross of Christ and the strength of Faith, although their fruits (acorns) are also a symbol of lust (Ancona 1977).

In Portuguese tradition, oak tree was linked to the nobility and the royal family, and representations of oak branches can be found in many buildings, such as in the Senate House of the Portuguese Parliament, where, in the past, the nobility assembled; in works of art related to the king, such as in coins, commemorative medal (Figure 22), in the cover of the 1838 Constitution used by deputies in Parliament sessions (Figure 23), and, later, on postage stamps (Figure 24).



Figure 22. Reverse of a commemorative medal (1828) of King Dom Pedro IV, with laurel (left) and oak (right) branches. Royal Treasure Museum, Lisbon.



Figure 23. Cover of the 1838 Constitution. Original text from the Chamber of Deputies, with laurel (left) and oak (right) branches embroidered in the cover. Parliament Museum of the Portuguese Republic (Lisbon)





Figure 24. Postal stamp of Dom Manuel II (1889-1932, reigned from 1908 to 1910) issued on January 1st, 1910. This stamp (1000 reis) was the highest value of the last stamp series issued by the Portuguese Monarchy. Under the drawing that represents the young king profile, are branches of laurel (left) and oak (right), plants with ancient links to the Portuguese nobility and the Portuguese Royal House. Private collection.

The word *carat* – the unit of weight for gemstones –, has its etymology on the Greek *kéras* (*kératos*) = horn, which is a word related with the Greek *keratōnía* = carob tree (*Ceratonia siliqua* L.) (Figure 25), a tree native from the Mediterranean basin, Middle East, Iran, south of the Arabian Peninsula and Somalia. This etymological alludes to the fact that the fruits of this tree resemble horns, and its seeds were used as a measure of weight, in an old weighing system. There is a belief that attributes to the carob seeds an unusually constant mass, despite the variation that can be seen in seeds from a single pod (Tolansky 1962, Harper 1970, Daniel 1972, Janzen 1979, Zhengzhang 1991, Turnbull *et al.* 2006). This belief is partially true, because although the seeds have indeed a variation, they can be visually selected and those with a bigger size have a weight very close to 200 mg. The ancient historical use of the word *carat*, its link with the carob seeds and an early adoption by many countries of a variable weight value for the carat, made the international delegates present at the 4th *Conférence Générale des Poids et Mesures*, held in Paris (1907), to approve the standard carat weigh of 200 mg for the commerce of diamonds, pearls, and precious stones, with the following declaration: ‘*La Chambre syndicale émet le vœu que l'unification du poids du Carat soit réalisée par l'adoption d'un poids légal qui prendrait le nom de Carat métrique et qui équivaldrait à 200mg*’ [The Chambre of delegates expresses the wish that the unification of the weight of the Carat be achieved by the adoption of a legal weight that will take the name of metric Carat and will be equivalent to 200mg] (CGPM 1907, p. 90).

When carat is used for gold, it refers to its purity (pure gold has 24 carat), not weight, and this is historically associated with a Roman coin called *solidus*, the basic unit of the Byzantine monetary system [1]. The *solidus* had a weight of approximately 4.5 grams (in our contemporary weight system), was made with highest content of gold that was possible at the time and, by the fourth century AD, was equivalent to 24 silver coins, hence the later association of pure gold with the number 24.



Figure 25. Fruits and seeds from the carob tree (*Ceratonia siliqua* L.). Photo by Nataly Studio (Shutterstock).

Jewels inspired by plants embody sophisticated modes of expression, offering profound insights into complex symbolic systems, spiritual ideologies, and artistic paradigms. Their study disrupts the artificial compartmentalization of human knowledge into isolated disciplines, advocating a holistic perspective on the profound role of plants in art and creativity.

## Declarations

**List of abbreviations:** Not applicable.

**Ethics approval and consent to participate:** Not applicable.

**Consent for publication:** Not applicable.

**Availability of data and materials:** Not applicable.

**Competing interests:** The authors have no conflict of interest.

**Funding:** IHC-CEHFC (Evora University and Nova Lisbon University) and Polytechnic University of Beja.

**Authors' contributions:** All authors contributed equally to the manuscript.

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## Acknowledgements

The authors acknowledge the support provided by Dr. José Alberto Ribeiro (Director of Ajuda National Palace), Dr. Nuno Vale (Executive Director of Royal Treasure Museum), Parliament Museum of the Portuguese Republic, Museu Histórico Nacional (Rio de Janeiro), Lauren Stark from the Royal Collection Enterprises Limited 2024 (Royal Collection Trust), and to the Chatsworth House Trust. The UNESCO Chair in Ethnobotany and Safeguard of Plant-Based Heritage supported this research. This *Note on Ethnobotany* is dedicated to the loving memory of Ana de Oliveira Mendonça (1925-1997).

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## **Website**

[1] [www.nga.gov/features/byzantine/imperial-coinage.html](http://www.nga.gov/features/byzantine/imperial-coinage.html)