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CROCUSES IN CONTEXT: A Diachronic Survey of the Crocus Motif in the Aegean Bronze Age

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# CROCUSES IN CONTEXT

## A DIACHRONIC SURVEY OF THE CROCUS MOTIF IN THE AEGEAN BRONZE AGE

### ABSTRACT

Floral imagery plays a major role in Minoan art, and the crocus has long been recognized as an important motif. Previous studies, however, have been narrowly focused on specific materials or interpretations, thereby obscuring the richness of crocus iconography and its meanings. This article presents a detailed survey of the crocus in Aegean art from the Early Bronze Age to Mycenaean times, exploring the diversity and development of the motif across different media and reassessing possible explanations for its importance. A complex world of floral symbolism is revealed, in which the polysemic crocus functions as a key element in Minoan identity.

### INTRODUCTION

Crocuses have long been recognized as a popular motif in Minoan art, and more recently have become an equally popular topic in archaeological debates, where a wide variety of explanations for the importance of both the flower and the spice saffron (its by-product) have been proposed.<sup>1</sup> Yet a detailed study of the motif is lacking, and the topic can be a minefield for the unwary reader, who must navigate through limited interpretations and false assertions. Much of the discussion about the crocus has been

1. This article is based on a case study that formed part of my doctoral research, completed at Trinity College Dublin with the support of a postgraduate scholarship from the Irish Research Council for the Humanities and Social Sciences (IRCHSS) and a Trinity College Dublin one-year postgraduate award. The generous financial assistance of the Center for Archaeological Investigations (CAI) at Southern Illinois University, Carbondale, allowed for the inclusion of color

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Watts drew the crocus in Figure 2. Eleni Tsiknakou at the Irish Institute of Hellenic Studies at Athens assisted with image permissions from the National Archaeological Museum, Athens; Amalia Kakissis at the British School at Athens and Eleanor Huffman at INSTAP-SCEC were also very helpful. Finally, I would like to thank the anonymous reviewers and editors of *Hesperia*, whose suggestions helped improve this article.

intertwined with the interpretation of frescoes, and therefore has neglected to consider the contemporary use of the same motif in other materials.<sup>2</sup> Context is of paramount importance in the analysis of the material culture of past societies; this article, by attempting to untangle the threads of crocuses and saffron in the Aegean Bronze Age, widens the focus to include not only frescoes, but ceramics, faience, stone and metal vessels, jewelry, sealstones, ivory, and weapons. Such a broad study, diachronic in nature, allows the range and development of the crocus motif to be defined, and earlier interpretations of this material to be reassessed.

In the discussion that follows, I first clarify the botanical facts pertaining to the production of saffron from the crocus flower.<sup>3</sup> The dispute over the species of crocus depicted in Aegean art is briefly revisited, and the merit of such discussions debated. A detailed analysis of the use of the motif in various media follows, leading to a reexamination of the proposed reasons for the prominence of the motif and a discussion of the complexities of this aspect of Minoan floral symbolism.

In his monumental publication of the excavations at Knossos, Sir Arthur Evans identified various crocus-decorated artifacts from both the palace and its surroundings, among them the Saffron Gatherer fresco and the wall paintings from the House of the Frescoes, faience robes and flowers from the Temple Repositories, and ceramics ranging from Middle Minoan (MM) IB cups to Late Minoan (LM) IB jars.<sup>4</sup> He even identified the crocus flower on inscribed clay tablets, sealings, and seals, although later work demonstrated that some of his “saffron” signs in fact denote olive oil.<sup>5</sup> Contemporary discoveries at other Cretan sites produced comparative material, such as a rhyton from Palaikastro with pendent crocuses, gold pins from Early Minoan (EM) tombs at Mochlos terminating in possible crocus flowers, and a hole-mouthed vase from the Kamares Cave painted with “crocus flowers in a remarkably naturalistic manner.”<sup>6</sup> A century of ongoing excavation on Crete has increased the corpus of crocus-decorated material, and the flower is now one of the best-known Minoan motifs.

The discoveries at Akrotiri in the 1960s added an abundance of ceramics and frescoes featuring the crocus to those already known from Crete. Over the next 25 years, crocuses and saffron became increasingly popular subjects for study, as archaeologists strove to understand the meanings of Bronze Age art. Potential medicinal powers were debated, as was saffron’s role in ritual.<sup>7</sup> The iconography of crocuses in frescoes was reconsidered, as were crocus-decorated costumes.<sup>8</sup> Even the baskets used to gather the flowers were discussed.<sup>9</sup> All these studies relied primarily on the iconographic

2. The frescoes in Xeste 3 at Akrotiri, for example, are the sole basis for the discussion in Amigues 1988, Rehak 2002, and Ferrence and Bendersky 2004.

3. This information is drawn from my ethnographic work in Greece (Day 2005; 2007, pp. 147–157), as well as ongoing research into the process around the world.

4. Frescoes: *PM I*, pp. 265–266, pl. IV; II.2, pp. 458–459, fig. 271. Faience: *PM I*, pp. 499, 506, fig. 358. Ceramics: *PM IV.1*, pp. 196, 287, figs. 221, 222.

5. Evans 1909, p. 179; *PM I*, pp. 280–281, fig. 215:a; IV.2, pp. 718–721, figs. 703, 704. For the identification of the sign for olive oil, see Ventris and Chadwick 1973, p. 130.

6. *PM II.2*, p. 510; I, p. 97; and I, p. 264, fig. 197, respectively.

7. Medicinal uses: Young Forsyth 2000; Rehak 2002; Ferrence and Bendersky 2004. Ritual uses: Marinatos 1984, 1987; Kopaka 2009. Both uses are discussed in detail below.

8. Iconography: Porter 2000; Warren 2000. Costumes: Rehak 2004.

9. Beloyianni 2000; Tzachili 2005.

evidence, as neither crocus flowers nor bulbs have been identified through paleobotanical testing. Indeed, their physical properties make it unlikely that such material will ever be recovered.<sup>10</sup> Other studies have looked at contemporary saffron cultivation and collection to gain insights into the ways in which these activities were conducted in the past.<sup>11</sup> Nevertheless, while crocuses and saffron, and their potential uses by Bronze Age consumers (in every sense of the word), have been well represented in academic discussions, a review of the full range of archaeological evidence is still lacking.

## CROCUSES AND SAFFRON

To date, 85 species of crocus have been identified in the Old World.<sup>12</sup> Eighteen of these species are found in Greece, with colors varying from dark purple to pale lilac to white and yellow.<sup>13</sup> There are both spring- and autumn-flowering varieties, but only those that bloom in the autumn produce saffron. This botanical fact was overlooked in early scholarship where the frescoes in Xeste 3 at Akrotiri (Fig. 1) were interpreted as symbolic of spring or summer.<sup>14</sup> Saffron is a spice produced from the dried branched style of certain species of crocus, in particular *Crocus sativus* L., the sterile domesticated variety, but also *Crocus cartwrightianus*, a wild species and the likely genetic ancestor of the domesticated variety (Figs. 2, 3).<sup>15</sup> Confusion persists in academic literature over which parts of the crocus become saffron, with references to stamens, the male pollen-bearing part of the flower, still appearing in recent works.<sup>16</sup> Contemporary saffron cultivation takes place mainly in Spain, Greece, Iran, Kashmir, and Morocco, and the spice is also still gathered from the wild, as on Santorini, for example.<sup>17</sup> On Crete, however, although 19th-century travelers reported the cultivation of crocuses, and saffron was a key export to the Paris Universal Exhibition in 1855, the flower no longer plays a role in the island's agriculture.<sup>18</sup>

Saffron crocuses bloom in the autumn for only a few days, so the styles have to be harvested rapidly before the flower decays. The harvesting process is laborious and must be done by hand.<sup>19</sup> The next stage, separating the petals from the interior parts of the flower, also needs to be done quickly, before the flowers begin to decompose. This process too may be done by hand, although a fan-assisted method has been developed in northern Greece.<sup>20</sup> Once the petals have been discarded, the styles must be separated from the stamens and any remaining debris. Again, this is done by hand and is painstaking work. The raw styles that result from this operation must then be dried. A number of drying methods have been employed, from

10. Marinatos recovered organic remains from Delta 2 at Akrotiri, which he suggested were salad onions and membranous peelings (*Thera* IV, p. 43, pl. 108). It is also possible that these are the remains of bulbs or corms of inedible plants such as lilies or crocuses.

11. Tzachili 1994; Day 2005.

12. Mathew 1999, p. 19.

13. Goliaris 1999, p. 74.

14. *Thera* VII, p. 34; Marinatos 1984, p. 68; 1987, p. 132. More recent work has not perpetuated this error.

15. Negbi 1999b, p. 7; Grilli Caiola 1999, p. 32.

16. E.g., *Thera* VII, p. 34; Doumas 1983, pp. 76, 106; more recently, Vlachopoulos 2008, p. 453 ("dried stamens");

Kopaka 2009, p. 192 ("stamens").

17. Tzachili 1994; Negbi 1999b, p. 3; Kafi, Hemmati Kakhki, and Karbasi 2006.

18. Savary 1788, pp. 296, 323; Raulin 1869, pp. 238, 262; Papadaki 1978, p. 67.

19. Day 2005, p. 50.

20. Day 2005, p. 50.

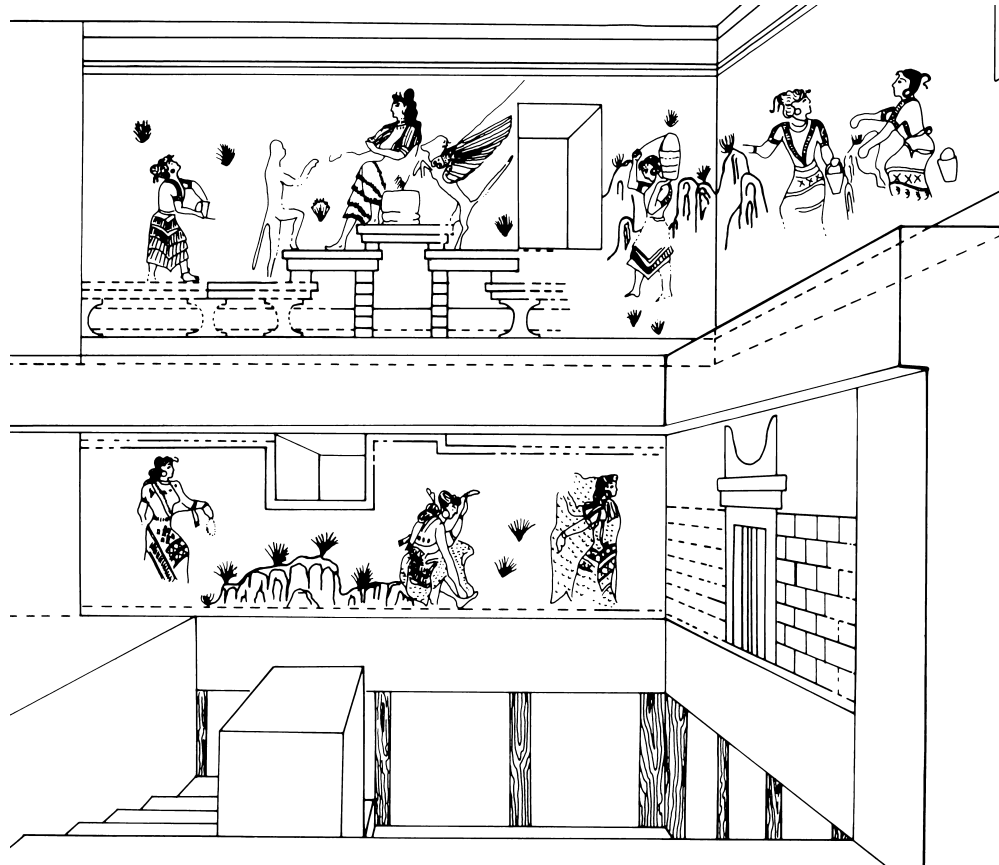


Figure 1. Reconstruction of frescoes on the north and east walls of room 3a, Xeste 3, Akrotiri. LC I/LM IA. After Immerwahr 1990, p. 60, fig. 20. Courtesy Pennsylvania State University Press

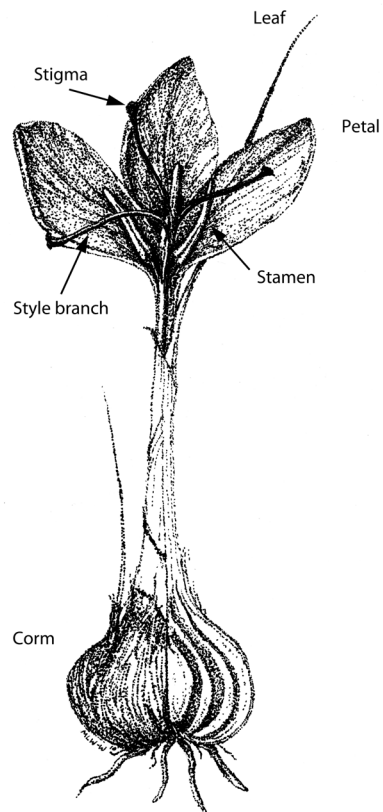


Figure 2. Morphology of *Crocus sativus*. Drawing M. L. Wilshaw-Watts

sun-baking to the use of electric ovens, small charcoal-burning kilns, or dark rooms heated by stoves, and recently even freezing.<sup>21</sup> Roughly 160,000 flowers are required to produce 5 kg of wet styles, which becomes 1 kg of saffron when dried.<sup>22</sup> This labor-intensive process is, of course, the reason why saffron has always been so expensive. The 15th-century royal house of Navarre, for example, paid eight times as much for saffron as for pepper, itself a very costly spice, while today saffron has been known to command up to \$3,000 per kilo.<sup>23</sup> The high price also makes it tempting to adulterate the spice for increased profit, and much “saffron” on sale in tourist markets at bargain prices is made from stamens and other spices such as safflower or, if sold in powdered form, turmeric. In the past, a penalty of death has been levied on those found guilty of this practice, but now such activities are less severely punished.<sup>24</sup>

### WHICH SPECIES?

One of the chief debates surrounding the use of the crocus motif in Minoan art is the attempt to identify precisely which species of crocus is depicted. The naming of the plants that appear in frescoes and other media has a long history, extending back to the days when Evans confidently asserted that a particular motif represented a “*Pancratium* lily” or “myrtle,” for example.<sup>25</sup> Soon other excavators were following in his footsteps, and thus a canon of putatively identifiable plants in Minoan art emerged. It took a botanist to bring some order to this mass of plants, a process that culminated in the groundbreaking publication of Martin Möbius.<sup>26</sup> He divided the plants depicted in Minoan art into seven categories, according to how recognizable the species were to him.<sup>27</sup> His three main categories, “sicher bestimmbar,” “mit Wahrscheinlichkeit bestimmbar,” and “unsichere,” contained the majority of the material treated, and he discussed over 20 identifiable plants, indicating in each case the diversity of representations in art.<sup>28</sup> Yet in comparison with the huge number of plants that grow on Crete, this is a tiny sample.<sup>29</sup> Archaeologists continue to use Möbius’s identifications for most floral motifs, although some of those he named, such as the water lily and the lupin, have faded from the academic limelight, elbows aside by crocuses, palms, and their accompanying debates.

Möbius placed the crocus in his first category, “certainly identified,” and in a subgroup of plants native to Crete.<sup>30</sup> He recognized that it was usually depicted growing from a tuft of leaves, with several flowers forming

21. Clark 1910, p. 60; Negbi 1999b, p. 8; Day 2005, p. 50.

22. Humphries 1996, p. 83.

23. Spufford 2002, p. 315. The figure of \$3,000 is taken from a Reuters news report of November 30, 2008, about the effect of drought on rising saffron prices in Iran: <http://in.reuters.com/article/2008/11/30/iran-saffron-idINBLA03922420081130> (accessed

July 25, 2011). More normal prices are in the range of \$600 per kilo (Deo 2003, p. 4).

24. Stacey 1973, p. 7; Meyer 1982, p. 14.

25. *PM* II.2, pp. 456–457.

26. Möbius 1933.

27. Möbius 1933, p. 2.

28. Möbius also included categories for generic, symbolic, and indeter-

minable floral motifs, as well as a group of *excludenda* (Möbius 1933, p. 2).

29. The flora of the island has recently been estimated to include 1,624 species, of which 139 are endemic (Turland, Chilton, and Press 1993, p. xii).

30. Möbius 1933, p. 2.

a cluster. Three petals are shown, with the branched styles visible between them. The color of the flower varies, and in some cases was probably determined by the color of the background, but most common are shades of purple or red, with white and blue also popular. Stigmas, the uppermost parts of the styles, which are visible between the petals, are red or orangey yellow, and vary between three (the botanically correct number) and two or four per flower.<sup>31</sup>

The purple petals and the large size of the stigmas, which in some cases are shown flopping out of the flower, have narrowed the discussion of species primarily to two candidates: *Crocus cartwrightianus* and *Crocus sativus*. That the debate continues with vigor is due to the fact that *C. sativus* is the domesticated saffron crocus. If this is the species depicted by the Minoans, it would indicate, as some scholars believe, that they had already domesticated the plant.<sup>32</sup> Such an early domestication of a spice would place saffron at the forefront of nonstaple crops that became reliant on humans for propagation.<sup>33</sup>

For convenience, I review here the principal positions in the taxonomic debate over the crocuses depicted at Knossos and Akrotiri. Evans labeled the representations of crocuses that he discovered *C. sativus*, in accordance with his ideas about the importance of saffron to the people of Knossos.<sup>34</sup> Cameron noted that at Knossos crocuses were depicted as growing both wild and in pots, and concluded that the species was probably *C. sativus*, a departure from his earlier suggestion of *C. sieberi* or *C. laevigatus*.<sup>35</sup> At Akrotiri, Spyridon Marinatos refrained from any attempt at botanical precision, writing simply that the women in the frescoes in Xeste 3 were gathering crocuses to produce saffron.<sup>36</sup> Douskos opened her paper on the crocuses of Santorini by declaring that the flowers depicted in Xeste 3 were *C. sativus*, but a few pages later suggested that they were *C. cartwrightianus*.<sup>37</sup> Nanno Marinatos initially offered no identification, but later assumed that the crocuses were *C. sativus*.<sup>38</sup> Morgan also opted for *C. sativus*, citing the unnatural clumps in which the plants grow as evidence of cultivation.<sup>39</sup> By contrast, Amigues chose to see the dispersal of plants in clumps among the rocks as an indication that the crocus was growing wild on Thera; combined with her morphological analysis, this suggested to her that it must be *C. cartwrightianus*.<sup>40</sup> Rackham preferred to see cultivated crocuses, although this opinion was based upon sartorial rather than botanical considerations; in his view, the clothing of the women gathering flowers was more suited for "a garden party rather than for roughing it in the phrygana."<sup>41</sup> In the same volume, however, Cameron saw the setting of the frescoes as an uncultivated "mountain location."<sup>42</sup> Warren provided a useful summary of the arguments for each species, and introduced another possibility, *C. oreoreticus*, into the equation.<sup>43</sup> Porter added further discussion of *C. oreoreticus*, but preferred *C. cartwrightianus* for the plants depicted at Akrotiri.<sup>44</sup> Finally, Sarpaki has recently come down firmly on the side of *C. cartwrightianus*, stating that the fresco in Xeste 3 "is a naturalistic portrayal of real life in the wild, and does not in any way depict cultivation of the crocus."<sup>45</sup>

31. Porter 2000, p. 618.

32. Negbi and Negbi 2002.

33. See Zohary and Hopf 2000 for a chronology of the domestication of plants in the Old World.

34. *PM I*, p. 265; *IV.2*, p. 718.

35. Cameron 1975, p. 98; cf. 1964, p. 121.

36. *Thera VII*, p. 34.

37. Douskos 1980, pp. 141, 143.

38. Marinatos 1984; 1987, p. 130.

39. Morgan 1988, p. 31.

40. Amigues 1988, p. 228.

41. Rackham 1978, p. 757.

42. Cameron 1978, p. 582.

43. Warren 2000, p. 371.

44. Porter 2000, pp. 614–615.

45. Sarpaki 2000, p. 661.

## ETHNOTAXONOMIES

Such competing interpretations arise from the expectation that the plants in Minoan frescoes are accurate depictions of a real species. This assumption underlies much of the iconographic analysis of Aegean art, but has rarely been investigated. Warren has posed interesting questions about the “relationship between real world forms and their representation in ‘art.’”<sup>46</sup> His conclusion that the floral art of the Bronze Age covers a spectrum ranging from near naturalistic to essentialist is certainly helpful in explaining why some plants seem more recognizable than others. There is, however, another problem inherent in these analyses. All of the scholarly debate over species is firmly rooted in the Linnaean tradition, a taxonomic system developed in the 18th century, and one that, with later amendments, has come to dominate the study of botany in the West. In this system, all plants are provided with a correct place: they belong to a species, within a genus, within a family, based on the numbers of their petals and sexual organs.

Yet this is not the only way to classify plants. Before Linnaeus, other systems, if less all-encompassing, did exist.<sup>47</sup> Moreover, ethnographic study has brought to light detailed folk taxonomies from around the world.<sup>48</sup> All known human cultures have notions of species of plants and animals and sequential patterns of naming them, generally based on morphological regularity (e.g., plant, tree, oak).<sup>49</sup> These taxonomies help humans make sense of the world, and studies have shown that the most detailed level of recognition for the majority of people in traditional societies is “folk generic.”<sup>50</sup> Some 500–600 such generics can be easily recognized by a society, and these salient groups are the building blocks of taxonomic systems.<sup>51</sup> Traditional societies may also link groups of plants by nonmorphological qualities, such as perceived pharmacological or totemic powers.<sup>52</sup> On the basis of such ethnobiological research, it seems likely that Minoans would have recognized “crocus” as a distinct taxon, but perhaps would not have distinguished between different species of purple, autumn-flowering crocuses. The physical differences between *C. cartwrightianus*, *C. sativus*, and *C. oreocreticus* simply may not have been relevant to the Minoan view of nature.

Academic discussions about species have raised many interesting points about Minoan floral iconography, and these should not be dismissed. Our adherence to a modern framework of classification, however, may obscure the real relationships between the plants in Minoan art and the people who depicted and viewed them, thus further distancing scholarship from a key goal of understanding how plants fit into the overall cognitive system of the society.

46. Warren 2000, p. 364.

47. Morton 1981; Pavord 2005.

48. Berlin, Breedlove, and Raven 1974; Berlin 1992.

49. Atran 1990, p. 17; Cotton 1996, p. 260, table 9.2.

50. Berlin 1992, p. 64.

51. Cotton 1996, pp. 259–264.

Aberrations may also be found, however, where a plant or animal does not fit neatly into a category.

52. Berlin 1992, p. 119.



## A SURVEY OF CROCUS ICONOGRAPHY

While frescoes offer perhaps the most striking depictions of crocuses from the Bronze Age, the motif is not restricted to wall paintings, and no discussion of its meaning can be satisfactory unless it considers the iconography of the flower in other media as well. In the systematic survey that follows, frescoes are explored first because they illustrate most clearly the familiar Late Bronze Age crocus, but ceramics, stone vessels, faience, jewelry, seals, metal vessels, weapons, and ivory are also examined. The records of saffron in Linear B will not be discussed here, but are the subject of a complementary article.<sup>53</sup>

### FRESCOES

The published frescoes that feature crocuses all date to the period from MM IIIB to LM IB. Currently there is no evidence that crocus motifs similar to those on Kamares ware pottery were painted on the walls of Proto-palatial buildings, although early frescoes like the Knossos Saffron Gatherer and those discovered at Galatas may be following an already-established practice.<sup>54</sup> Examples are discussed here if they have been identified in print as crocuses, irrespective of species. Both the so-called naturalistic versions of the flower and the more stylized motifs are covered. In this discussion I treat each wall as a separate scene: for example, although the saffron-gathering scenes in Xeste 3 at Akrotiri are thematically and spatially linked across two stories, each is initially treated here as a separate entity.

The crocus frescoes can be divided into four categories: those with human figures, those with animals, those in which the flower appears as bodily decoration, and miscellaneous fragments. There is a certain amount of overlap between these groups, since crocuses depicted on textiles or jewelry, for example, tend to appear on human figures. Because of the fragmentary state of many of the frescoes, the original composition can be uncertain, and the exact contents and layout of the reconstructed scenes are often hypothetical.

### HUMAN FIGURES

Crocuses are found in scenes with human figures at three sites: Akrotiri, Ayia Triada, and Knossos. In Xeste 3 at Akrotiri, crocuses appear in frescoes on the north and east walls of two stories of room 3, a space subdivided by pier-and-door partitions into three separate chambers (Fig. 1). At ground level, the north wall of room 3a (the lustral basin) is the site of the so-called Adorants scene, in which three females are surrounded by crocus clumps. There is also a detached crocus flower below the foot of the seated Adorant. Directly above this, on the north wall of the upper story of room 3a, is the Saffron Goddess fresco, featuring a female figure also known as Potnia Theron or Mistress of the Animals. Here too crocuses sprout across the wall, while picked flowers are also visible in the baskets of two young girls, and a monkey offers styles to the seated goddess. The fresco on the adjoining east wall of the upper story is also dotted with clumps of

53. Day 2011.

54. Saffron Gatherer: *PM I*, pp. 265–266. For the Galatas frescoes, see Rethemiotakis 2002.

crocuses, and two more girls, the eponymous Saffron Gatherers, are shown busily picking the flowers. Crocus motifs are also evident on the clothing of some of these figures; these are discussed below. In all these scenes, the once-purple petals of the flowers have faded, leaving brown stalks and occasional red styles behind.<sup>55</sup>

At Ayia Triada, on the north wall of room 14 of villa A, a female Adorant has been reconstructed kneeling before a baetyl.<sup>56</sup> Although the fresco is badly burned, it is possible to distinguish pale crocuses growing from a clump below the knee of the figure, as well as several other clumps on the same wall. A similar scene may be depicted in a LM IB fresco in the North Building at Knossos. Here, in the Room of the Frescoes, maroon crocuses with blue calyxes can be identified.<sup>57</sup> Warren has suggested that multicolored fresco fragments found in this room come from the dress of a large-scale painting of a female figure, similar to the “goddess” on the east wall at Ayia Triada.<sup>58</sup> If so, this fresco is probably another example of a female with crocuses. Although the flowers depicted at Ayia Triada and Knossos both have divided calyxes, this is not a feature of real crocuses.<sup>59</sup>

Another fresco, the Priestess from the West House at Akrotiri (Fig. 4), should be included here as well. Although no crocus flowers appear in the scene, the girl is shown sprinkling onto a brazier a mass of orange threads, which some scholars have suggested could be saffron.<sup>60</sup> The yellowish pigment used here is not the red that normally indicates crocus stigmas in frescoes, perhaps because it would then be difficult to distinguish between the saffron and the red coals. Yellow stamens could be intended instead, although it is equally possible that this is a depiction of some other substance unrelated to the crocus.

## ANIMALS

Crocuses appear more frequently in scenes with animals than in those with human figures. Three examples each have been found at Knossos and Akrotiri, and one more at Ayia Triada. Two frescoes in the House of the Frescoes at Knossos date to MM IIIB–LM IA: the Crocus Panel and the Birds and Monkeys fresco. In the first, Cameron restored two agrimia facing each other on either side of an olive tree, while the upper part of the scene is filled with crocus clumps.<sup>61</sup> Recent scholarship, however, prefers a reconstruction without the agrimia.<sup>62</sup> In the Birds and Monkeys fresco, crocuses are but one of a multitude of plants that grow along rivers and among rocks. The third fresco with crocuses at Knossos is the Saffron Gatherer, possibly the earliest surviving figural fresco in the Aegean.<sup>63</sup> In this scene, a blue monkey, previously thought to be a boy, moves through a landscape filled with crocus flowers, some of which apparently grow in vessels. The fragmentary nature of this fresco makes reconstructing the original composition challenging, but single large white crocuses sprout from rocks rather than in clumps as in later scenes.

At Akrotiri, the Bovines and Crocuses fresco from Beta 6 features large quadrupeds flanking a clump of crocuses; Sarpaki sees this heraldic composition as a reference to the deliberate preservation of flowers from browsing by animals.<sup>64</sup> The upper level of Xeste 3, room 2, produced a

55. Warren (2000, p. 370, n. 1) points out places where petal “ghosts” can be seen.

56. Militello and La Rosa 2000; Jones 2007.

57. Warren 2005, p. 143. A calyx is a ring of sepals, or modified leaves, that form the outermost part of a flower and protect it in the bud.

58. Warren 2005, pp. 134–135.

59. Warren 2000, p. 371, fig. 7.

60. *Thera* V, p. 43; Marinatos 1984, p. 46; Morgan 1988, p. 29.

61. Cameron 1968, p. 25, fig. 12.

62. Chapin and Shaw 2006.

63. MM IIIA according to Hood (2005, p. 62), although Evans (*PM* I, pp. 265–266) suggested MM II.

64. Sarpaki 2000, p. 657.



Figure 3. *Crocus sativus*, Krokos, Greece. Photo J. Day



Figure 4. Detail of the Priestess fresco from the doorway between rooms 4 and 5, West House, Akrotiri. LC I/LM IA. After Marinatos 1984, p. 45, fig. 26. Courtesy N. Marinatos



Figure 5. Detail of the Lily Bearer fresco, Mycenae. Athens, National Archaeological Museum 11651. LH IIIc? Photo © Υπουργείο Πολιτισμού / Ταμείο Αρχαιολογικών Πόρων

fragment of crocuses and a swallow.<sup>65</sup> The intriguing Monkeys and Swords frieze from the upper level of room 4 in the same building also has crocus clumps in the background.<sup>66</sup> Finally, on the south wall of room 14 in villa A at Ayia Triada, cats and agrimia bound through a floral landscape that includes tufts of dark crocuses.<sup>67</sup>

### BODILY DECORATION

In contrast to these scenes in which crocuses grow from the ground in tufts, other representations of the flower depict it as an isolated element. Seven instances of crocuses as a motif on textiles can be identified. The Necklace Swinger in the Adorants fresco from Xeste 3 at Akrotiri (room 3a, ground level) wears a diaphanous garment with red stigmas visible on the sleeves and bodice, remnants of whole crocus flowers whose petals have faded over time.<sup>68</sup> Rehak has suggested that the Wounded Maiden in the same scene is wearing a belt decorated with crocus buds, although this is a more tentative interpretation.<sup>69</sup> There are also crocus blossoms on the left shoulder of the dress worn by the third Adorant (the Veiled Girl), again identifiable by the red stigmas that remain.<sup>70</sup> On the wall above, the seated Saffron Goddess also wears a pale blue top decorated with crocuses, again with only stigmas remaining. Her garment is bordered by a strip of darker blue, however, where whole crocus flowers are still evident. One of the three older women depicted on the adjacent east wall (room 3b, upper level) may also have had crocuses on her garment.<sup>71</sup>

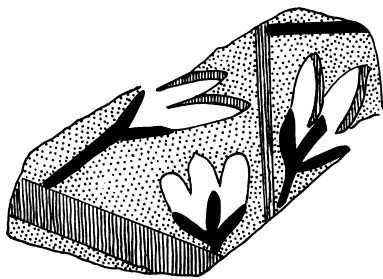


Figure 6. Fresco fragment, Palaikastro. LM I. Bosanquet and Dawkins 1923, fig. 130

An example of crocus-decorated cloth can be found in a fresco from the Cult Center at Mycenae as well: a fragment of material on the left shoulder of the Lily Bearer features red trifoliate motifs (Fig. 5).<sup>72</sup> This more stylized crocus is directly comparable with a type used as decoration on pottery (see below). The motif is similar in concept if not in style to the examples in the frescoes from Akrotiri, and its presence on a female's garment reinforces the identification. On Crete, the only fresco with a depiction of a textile possibly decorated with a crocus was recovered at Palaikastro (Fig. 6).<sup>73</sup>

It is worth noting that in two of the examples where crocuses or crocus styles appear on textiles, red threads can also be observed on the skin of the figures. The Saffron Goddess from Xeste 3 at Akrotiri has two branched styles on her cheek below the eye, while the older woman on the adjacent wall has a red strand on her cheek. Whether these are intended to represent painting on the skin, tattoos, or actual crocuses or styles draped behind the ear is unclear. I shall return to this subject below.

Examples of the crocus as a motif in jewelry can be found in frescoes as well. Crocus jewelry adorns the neck of one of the Ladies in Blue at Knossos, and fresco fragments from the Procession Corridor show crocuses accompanied by dots, which have also been identified as representations

65. *Thera* VII, pl. 39:b; Vlachopoulos 2008, p. 453, fig. 41:15.

66. Doulas 1992, p. 134, figs. 95, 96; Rehak 1999a. Vlachopoulos (2008, p. 453) assigns this fresco to room 2, as part of a frieze with the fragment of swallows and crocuses.

67. Evelyn 1999, p. 242.

68. Doulas 1992, p. 138, fig. 101; Laffineur 2000, p. 904; Rehak 2004, p. 87, fig. 5:3.

69. Rehak 2004, p. 89.

70. Rehak 2004, p. 90.

71. Doulas 1992, p. 169, fig. 132;

Rehak 2004, p. 91; Vlachopoulos 2008, p. 453.

72. Kritseli-Providi 1982, pl. B:β.

73. Bosanquet and Dawkins 1923, p. 148.

of jewelry.<sup>74</sup> Porter's suggestion that the Necklace Swinger from Xeste 3 at Akrotiri is wearing a garland of fresh stigmas in small bundles is plausible, although his interpretation of the torque worn by the older woman in the same building as a group of red stigmas and yellow stamens carefully aligned in a semicircle seems more farfetched.<sup>75</sup> Another example of possible crocus jewelry comes from Mycenae, where the Mykenaia wears a necklace of red and yellow crocus pendants, a motif identical with that on the dress of the Lily Bearer.<sup>76</sup> She also carries a second similar necklace, or perhaps a garland, in her right hand. Finally, despite the existence of a variety of florally inspired hairpins in frescoes of women, none of these can be said to be crocus flowers.<sup>77</sup> The closest example is the older woman with a basket from Xeste 3, who may have sported crocuses in her hair or headdress, as styles are visible to the rear of her head.<sup>78</sup>

### MISCELLANEOUS CROCUSES

A variety of scenes and fragments completes the catalogue of crocuses in frescoes. The Fresco of the Garlands from the North Building at Knossos includes a circular garland of pale blue crocuses.<sup>79</sup> Although these flowers are not growing, they are similar in form to examples normally shown emerging from the ground. Miniature red crocuses were identified by Cameron in fragments from Savakis's Bothros, also at Knossos; he wondered whether these might come from the dress of a larger figure, but ultimately opted for a nature scene.<sup>80</sup> Miniature crocus clumps have been reported at Archanes, too, although only the stalks remain; since these do not have the same morphology as other crocus clumps, the identification must be treated with caution.<sup>81</sup> Hazzidakis noted the discovery of red crocus fragments on a white background in House C at Tylissos, although no illustrations have been published.<sup>82</sup> Gesell wondered whether the red paint on the horns of consecration above the shrine or altar in Xeste 3 at Akrotiri (room 3a, ground level, east wall) represented crocus stigmas strung across the structure, instead of the usual interpretation as blood.<sup>83</sup> A recently published photograph of the restored fresco, however, shows that the dripping red paint was meant to indicate a liquid.<sup>84</sup>

Stylized examples of the motif, well known from ceramics, are evident in frescoes too. The Ship Procession fresco from room 5 of the West House at Akrotiri includes so-called crocus festoons (Fig. 7). Hanging from the mast to the prow and stern of the flagship, these three-lobed objects are similar to the pendent crocus motif found on LM IB pottery and gold beads (see below). Morgan considers a shape on the side of another boat to be the same motif, again a crocus.<sup>85</sup> Identical pendent crocuses recur in the decoration of two of the *ikria* from room 4 of the West House.

Crocus fragments have been reported in frescoes beyond the confines of Crete and Thera. A painted plaster floor at Tel Kabri displayed floral motifs in an Aegean style, including a string of yellow crocuses.<sup>86</sup> The only other place where yellow crocuses have been reported, however, is Knossos, and the identification by Evans is in doubt.<sup>87</sup> Moreover, no other crocus frescoes seem to have come from floors, and published images of the Tel Kabri crocuses do not show them clearly, so they must be treated with caution for now.

74. *PM I*, pp. 545–546, figs. 397, 398; II.2, p. 680, fig. 430.

75. Porter 2000, p. 623.

76. Kritseli-Providi 1982, pl. Γ:α.

77. Nor are crocuses evident in the floral hairpins on the gold ring from the Acropolis Tomb at Mycenae (Niemeier 1990, p. 167, fig. 1).

78. Rehak 2004, p. 91.

79. Warren 2000, p. 367.

80. Cameron 1976, p. 8, fig. 3:a, pl. 3:b.

81. Sakellarakis and Sapouna-Sakellarakis 1997, p. 497.

82. Hazzidakis 1934, p. 37.

83. Gesell 2000, p. 954.

84. Vlachopoulos 2008, p. 456, fig. 41:10.

85. Morgan 1988, p. 30.

86. Niemeier 1991, p. 198; Niemeier and Niemeier 2000, p. 776, figs. 7, 8.

87. Chapin and Shaw 2006, pp. 78–80.

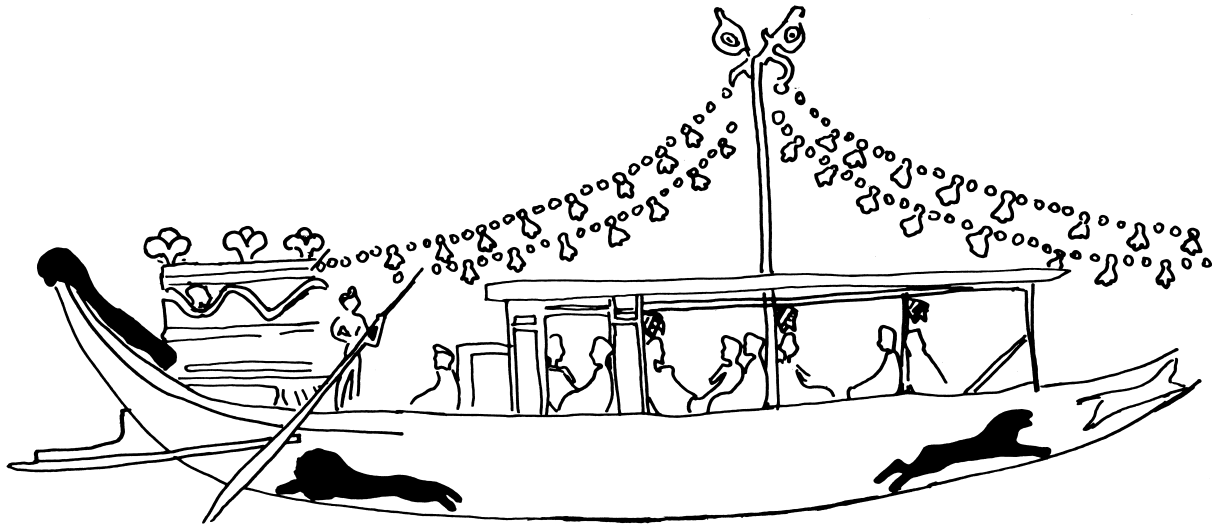


Figure 7. Detail of the Ship Procession fresco, room 5, West House, Akrotiri. LC I/LM IA. Marinatos 1984, p. 55, fig. 34. Courtesy N. Marinatos

Flowers in two fragmentary floral frescoes from Pylos bear a resemblance to crocuses; Lang labeled one group of these (15 N SW) “anemones” and the other (9 N 47) “white crocus or tulip.”<sup>88</sup> The second example in particular is morphologically similar to the flowers growing from rocks in the Saffron Gatherer fresco at Knossos. Neither of the Pylian frescoes was on the wall at the time of the final destruction of the palace, and their stylistic similarity to Minoan floral frescoes is most likely a reflection of their earlier date.

Cameron suggested that a three-petaled white plant from Tiryns could perhaps be a crocus.<sup>89</sup> This example, like those from Pylos, belonged to the decoration of the Old Palace, and was not identified as any particular species by Rodenwaldt. Finally, Morgan identified a flower from Trianda on Rhodes as a crocus, although Cameron proposed honeysuckle, and the excavators suggested lotus.<sup>90</sup> The flower is orange and lacks the central upright petal that is one of the distinguishing characteristics of the crocus in Minoan art; it also has unusual stigmas, and therefore probably should not be classified as a crocus.

In summary, crocuses occur in a variety of contexts in Aegean Bronze Age frescoes. They appear in scenes with human figures (mostly females) more often than any other plant, suggesting that the flower played an important role in the relationship between humans and the environment. The fact that the crocus is depicted so frequently, however, must not be used as a license to identify it without careful comparative work.

In many instances in which the original context of the crocus fresco is known, ritual use of the room or building has been hypothesized (Akrotiri, Xeste 3; Ayia Triada, villa A, room 14; Knossos, North Building and House of the Frescoes; Mycenae, Cult Center). Often the frescoes themselves are partly responsible for this suggestion, especially those interpreted as representations of offerings to deities or ritual acts that may have taken place in the room itself. The architectural layout of these rooms, however, also marks them out as “special”: lustral basins, polythyra, elaborately paved floors, and indeed the generally well-built nature of the structures may indicate that they were more than residential. Finds from within the rooms

88. *Palace of Nestor* II, pp. 130–131, pls. H, 71, 73.

89. *Tiryns* II, pl. III:1; Cameron 1964, p. 126, n. 8.

90. Morgan 1988, p. 30, n. 133; Cameron 1975, p. 776; Monaco 1941, p. 88, n. 1.



or buildings, such as children's bones in the North Building at Knossos, or a table inscribed in Linear A in the House of the Frescoes, can likewise be used to support a "special" interpretation. Yet it is important to look beyond the frescoes and consider the crocus motif in other contexts before making any assumptions about its significance.

## CERAMICS

A study of the crocus motif on Bronze Age ceramics can illustrate its chronological development (Table 1), and so complement the evidence provided by the frescoes, all of which date to a limited period of time from MM IIIB to LM IB. This is not a straightforward exercise, however, for although the crocus is relatively easy to recognize on Neopalatial ceramics, earlier examples are less clear.<sup>91</sup> It is difficult to determine exactly when a three-lobed motif is intended to be a crocus, and when it represents another plant, or is simply a generic floral decoration. My intention here is to outline the chronological development of identifiable examples of the flower, rather than to judge borderline cases or provide a complete catalogue.

Foliate motifs first emerge in the light-on-dark pottery of EM III–MM I, which ultimately led to polychrome Protopalatial Kamares ware. To identify any species of flower on EM–MM I pottery with certainty is impossible. Nevertheless, it is surely worthwhile to ask whether a decorative motif so common in later times might have antecedents. For example, two identical MM IA footless goblets, one from Knossos (Table 1:1), the other from Mallia, bear large, three-pronged motifs with white lines along the centers of the "petals."<sup>92</sup> Could these be predecessors of the later crocuses, portrayed within the limitations of contemporary ceramic technology? A more developed version of this motif can be seen on a MM IA–IB cup from the Town Drain at Knossos. Decorated in red and orange, with barbotine additions, this cup shows a similar three-pronged motif with dotted white lines along the petals (Table 1:2), identified by Evans as a crocus, but described by Furumark as a pictorialized outline triangle.<sup>93</sup> The addition of styles between the petals is the essential difference between this example and the earlier ones, however, and makes it recognizable as a crocus.

Trifoliate motifs become more popular in MM IB–II, as on a spouted jar from Vasiliki (Table 1:3), where Evans identified chains of "crocuses" banded diagonally around the body, although here they lack styles.<sup>94</sup> A MM IIB–IIIA cup from Vrokastro may also bear a relatively early representation of this flower, again with three petals and distinct stigmas (Table 1:4).<sup>95</sup> Walberg, however, categorizes these motifs as "groups of radiating lines" or "foliate bands."<sup>96</sup> She discounts the idea that such motifs were derived from real plants, preferring to trace their origin to geometric shapes that gained plantlike features over time. It is likely that the similarity of at least some of the floral motifs in Kamares ware to real plants was unintentional, and Walberg is correct in seeing these as purely abstract motifs. Yet in view of the important role the crocus plays in later frescoes and ceramics, and the fact that its development as a motif can be traced throughout the Middle and Late Bronze Age across a variety of media, it seems preferable to

91. For earlier discussions of crocuses on Late Bronze Age pottery, see, e.g., Müller 1997, pp. 151–153 (LM IB); Niemeier 1985, pp. 61–63 (Knossos Palace Style).

92. Knossos: Momigliano 1991, p. 222, fig. 23:23; Mallia: Chapouthier and Demargne 1962, pl. XXXVIII: 9132. An identical motif can be seen on a small cup in the British Museum (GR 1936 9-1.5).

93. *PM* IV.1, pl. XXVIII:c; Furumark 1941, p. 134.

94. *PM* I, pp. 184–185, fig. 133:h.

95. Hayden 2003, fig. 3:14.

96. Walberg 1987, pp. 55–56, fig. 42:viii; see also 1983, p. 46, pls. 40:10(viii)1, 48:24(vi)3. Walberg's analysis follows the methodology of Furumark (1941).

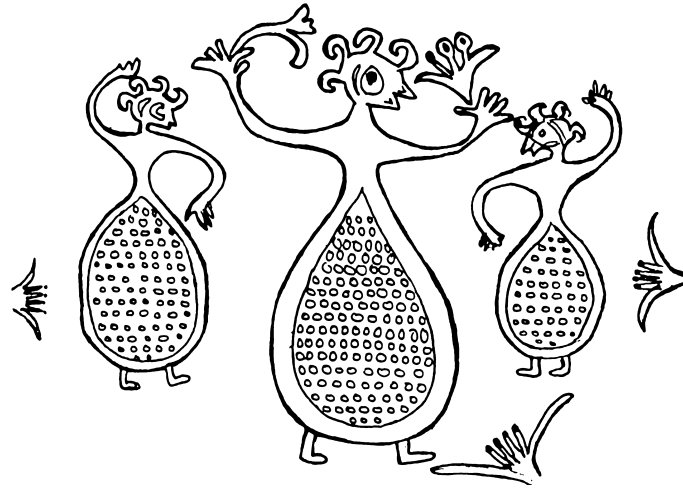


Figure 8. Sketch of the interior of a pedestaled vessel from Phaistos. MM IIA. Drawing L. Goodison

interpret these early trifoliates with stigmas as attempts to depict a flower that was already meaningful. Warren makes the case that the fresco artists of the MM III–LM I period were drawing on real-world forms for their inspiration;<sup>97</sup> this argument should be extended back to include at least some of the artists of the Protopalatial period as well.

Other possible crocuses from the Protopalatial period appear on a bowl and pedestaled “fruit stand” from Phaistos.<sup>98</sup> The interiors of these two vessels are painted with (female?) figures, and in both instances triangular flowers with obvious stigmas are a key element of the scene. Indeed, although partly reconstructed, it seems that the central figure on the “fruit stand” is holding such flowers in its hands (Fig. 8). Given that the crocus is the flower that appears most frequently with figures in later frescoes, these blossoms too may be intended to represent crocuses.<sup>99</sup> They are depicted at a much smaller scale than is usual for crocuses in ceramic decoration, but the size is in fact more realistic in relation to the human figures. Moreover, the figures shown bending over on the sides of the “fruit stand” may represent gatherers of crocus flowers, as several scholars have suggested.<sup>100</sup> A third vessel from Phaistos also features a figure standing beside a large flower with red stigmas, although in this instance the flower is as tall as the figure’s waist, and, unusually, the figure itself seems to be male.<sup>101</sup>

The MM III period sees an increase in pictorial motifs, and flowers become more obviously identifiable. Lilies, crocuses, and palms all appear, and there must be a link to the overall increase in depictions of nature as seen on frescoes and seals of the same period.<sup>102</sup> A pitharaki from Phaistos shows a crocus whose petals are still quite pointed, although the styles curling out over the sides help identify it (Table 1:5).<sup>103</sup> Equally pointed

97. Warren 2000, p. 378.

98. Levi 1976, pls. LXV–LXVII.

99. Marinatos (1993, p. 149) prefers to see these flowers as lilies, although they lack the recurved petals that are a feature of lily iconography on pottery.

100. Schiering 1999, p. 749; Goodison and Morris 1998, p. 123.


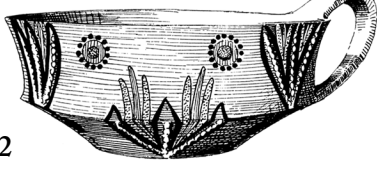








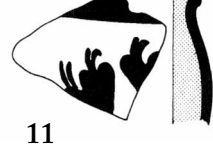


101. Levi 1976, pl. LXVII.

102. Betancourt 1985, p. 107; Furumark 1941, p. 137.

103. Levi 1976, pl. LXXXIII:a.














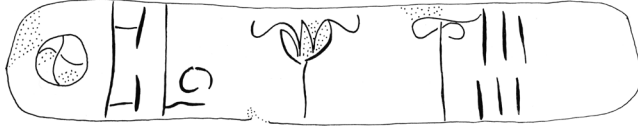


TABLE 1. CHRONOLOGICAL DEVELOPMENT OF THE CROCUS MOTIF

MM IA–MM IB	 
MM II–MM III	 
MM III	   
LM IA	  
LC I and LM IA Sprouting Crocus	 

1. Footless goblet, Knossos. Momigliano 1991, p. 222, fig. 23:23. Courtesy British School at Athens. 2. Cup, Knossos. *PM* II.1, p. 369, fig. 205. 3. Spouted jar, Vasiliki. *PM* I, p. 184, fig. 133:h. 4. Cup, Vrokastro. Hayden 2003, fig. 3:14. Courtesy University of Pennsylvania Press. 5. Pitharaki, Phaistos. Levi 1976, pl. LXXXIII:a. Courtesy Scuola Archeologica Italiana di Atene. 6. Pitharaki, Phaistos. Levi 1976, pl. 205:b. Courtesy Scuola Archeologica Italiana di Atene. 7. Bridge-spouted jar, Kamares Cave. Dawkins and Laistner 1912–1913, pl. X, bottom. 8. Globular rhyton, Phaistos. Levi 1976, pl. LXXXIV:c. Courtesy Scuola Archeologica Italiana di Atene. 9. Cup, Priniatikos Pyrgos. Betancourt 1983, fig. 7:28. Courtesy University of Pennsylvania Press. 10. Sherd, Zakros. Popham 1967, pl. 78:d, detail. Courtesy British School at Athens. 11. Sherd, South House, Knossos. Mountjoy 2003, p. 71, fig. 4:9. Courtesy British School at Athens. 12. Kymbe, West House, Akrotiri. Athens, National Archaeological Museum 3266. *Thera* VI, pl. 80. Courtesy Υπουργείο Πολιτισμού / Ταμείο Αρχαιολογικών Πόρων. 13. Rhyton, Palaikastro. Sackett and Popham 1970, p. 218, fig. 9, left. Courtesy British School at Athens.

TABLE 1—*Continued*

<p><b>LM IB</b></p> <p>Crocus and Festoons</p>	   <p>14 15 16</p>
<p><b>LM IB</b></p> <p>Wavy Crocus</p>	   <p>17 18 19</p>
<p><b>LM IB</b></p> <p>Detached Crocus</p>	   <p>20 21</p>
<p><b>LM II</b></p>	   <p>22 23 24</p>
<p><b>LM II and Linear B</b></p>	  <p>25 26</p>

14. Jar, Tylissos. *PM* IV.1, p. 286, fig. 220. 15. Conical rhyton, Palaikastro. Dawkins 1902–1903, p. 311, fig. 9. 16. Sherd, Kythera. Coldstream and Huxley 1972, pl. 54:164. Courtesy British School at Athens. 17. Sherds, Kythera. Coldstream and Huxley 1972, pl. 33:8, 9. Courtesy British School at Athens. 18. Cup, Ayia Irini, Keos. Caskey 1972, pl. 95:H19. Courtesy British School at Athens. 19. Alabastron fragment, Knossos. *PM* II.2, p. 470, fig. 276:k. 20. Sherds, Kythera. Coldstream and Huxley 1972, pl. 33:3, 4. Courtesy British School at Athens. 21. Cup, Palaikastro. Sackett and Popham 1970, p. 218, fig. 9, right. Courtesy British School at Athens. 22. Cup, Unexplored Mansion, Knossos. Popham 1984, p. 161, pl. 148:1. Courtesy British School at Athens. 23. Sherd, Unexplored Mansion, Knossos. Popham 1984, pl. 96:b. Courtesy British School at Athens. 24. Detail of pyxis, Unexplored Mansion, Knossos. Popham 1984, pl. 155:1. Courtesy British School at Athens. 25. Sherd, Unexplored Mansion, Knossos. Popham 1984, pl. 96:a. Courtesy British School at Athens. 26. Linear B tablet Np 85, Knossos. Chadwick et al. 1986, p. 44. Courtesy Cambridge University Press.

crocuses can be seen on an imported cup found at Akrotiri, where the pinkish styles have faded.<sup>104</sup> A less pointed version is also found, with large tufts of leaves at the base of the flower: on a pitharaki from Phaistos, for example, the flower head is much squatter than on previous examples (Table 1:6), and is in fact very similar to that on a bridge-spouted jar from the Kamares Cave (Table 1:7).<sup>105</sup> A band of similar crocuses inside concentric circles runs around the bull vase from Anemospilia.<sup>106</sup> These flowers, angled to the side, are again composed of three broad petals rising from a tuft of leaves. The same arrangement can be found on a globular rhyton from Phaistos (Table 1:8).<sup>107</sup> In all of these MM III examples, the key elements present are the leaves at the base, the three petals, and the visible styles, which are also the essential elements of the crocuses that appear later in frescoes.

During the LM IA period motifs became more naturalistic, and the relationship between frescoes and ceramic decoration was obviously close. This is also the period to which the majority of ceramics from Thera can be assigned, augmenting the Cretan evidence. Crocuses appear in a variety of different forms, but still retain the same recognizable features. Simple three-petaled flowers with styles occur, as on a cup from Priniatikos Pyrgos (Table 1:9) or a sherd from Knossos on which the petals are again picked out with white up the middle, while an askos from Akrotiri displays the squatter form of the flower noted already in MM III.<sup>108</sup> Solid crocuses appear on two stirrup jars from Akrotiri, one totally covered with flowers growing from stems, the other featuring just the flower heads around the top of the vessel.<sup>109</sup> The stigmas may be more exaggerated during this period, and are prominent on fragments such as those from Zakros (Table 1:10) and the South House at Knossos (Table 1:11).<sup>110</sup>

The increasing naturalism of this period is reflected in numerous depictions of crocuses that look as though they are actually alive, sprouting from a tuft of leaves in the earth. Many examples come from Akrotiri, all very similar in style. Strainers and kymbai are frequently decorated with crocuses growing from an undulating ground line, with pointed petals and two stigmas visible on either side of the central petal. Often, the flowers are accompanied by agrimia and marine motifs (Table 1:12).<sup>111</sup> It seems that such themes already existed in Middle Cycladic times, for a recently published bathtub from Akrotiri shows identical crocuses alongside goats, although here the flowers do not grow from a ground line but float across the scene.<sup>112</sup> Crocuses with plentiful basal leaves are depicted on the legs of a tripod offering table, also from Akrotiri, an arrangement similar to that of the narcissus on a LM IB tripod leg from Palaikastro.<sup>113</sup> During

104. *Thera* V, p. 31, pl. 62:c.

105. Levi 1976, pl. 205:b; Dawkins and Laistner 1912–1913, pl. X, bottom. Walberg (1983, p. 58, pl. 47:24(ii)4) classes the Kamares crocus as a pictorialized antithetic J-spiral, although she admits that it is “reminiscent of a crocus flower.” Both Walberg and Niemeier (1985, p. 61, n. 362) place this vessel in MM III, as opposed to

MM IIB, as suggested by Evans (*PMI*, pp. 264–265).

106. Sakellarakis and Sapouna-Sakellarakis 1997, pp. 556–557, fig. 559.

107. Levi 1976, pl. LXXXIV:c.

108. Priniatikos Pyrgos: Betancourt 1983, fig. 7:28; see also Betancourt 1978. Knossos: Popham 1967, pl. 77:d. Akrotiri: *Thera* IV, pl. 80:a.

109. *Thera* IV, pl. 79:b; V, pl. 61:a.

110. Popham 1967, pl. 78:d; Mountjoy 2003, p. 71, fig. 4:9.

111. *Thera* II, pl. 11:1; VI, pls. 73:b, 78:a, 80, 81; VII, pl. 47:c.

112. Papagiannopoulou 2008, p. 434, fig. 40:3.

113. Marinatos 1984, p. 88, fig. 60; MacGillivray et al. 1991, p. 139, fig. 15.

this period the flower also appears on vessels such as a conical rhyton, a “cupping glass,” and a “bee-hive,” all found at Akrotiri.<sup>114</sup>

A piriform rhyton from Palaikastro (Table 1:13), dated by the excavators to “sub-LM IA,” continues the naturalistic style of the crocus motif developed earlier in LM IA, and the flowers are similar to those on a conical rhyton from Gournia.<sup>115</sup> The Palaikastro rhyton also depicts unopened flower buds, a rarity for crocuses on pottery as opposed to those in frescoes. Another vessel from Palaikastro, dated in this case to LM IB proper, shows crocuses delicately painted in a manner close to that seen in frescoes.<sup>116</sup> A LM IB radiating crocus motif has been identified at Mochlos, although the flowers are quite untidily painted compared to earlier examples.<sup>117</sup> Another new development is the more stylized crocus and festoons decorative scheme, as seen in the Ship Procession fresco from the West House at Akrotiri (Fig. 7). A jar from Tyllissos (Table 1:14) is a classic example of this style, and similar fragments have been found elsewhere, at Knossos, Palaikastro, Keos, and Kythera (e.g., Table 1:15, 16).<sup>118</sup>

The island of Kythera has produced a broad spectrum of crocus motifs of this period, all on vessels apparently imported from Crete.<sup>119</sup> In addition to the crocus and festoons pattern, flowers with wavy leaves and stalks and a protruding central petal can be found on cups and bowls from the island (Table 1:17).<sup>120</sup> These are morphologically close to those on a jar from Archanes, various vessels from Keos (Table 1:18), and an alabastron from Knossos (Table 1:19).<sup>121</sup> A third type of LM IB crocus found on Kythera is a detached flower head, sometimes in bands by itself, at other times alternating with rockwork (Table 1:20).<sup>122</sup> The excavators note that Furumark identified this motif as a whorl shell, but in view of the crocus sequence on Kythera, they believe it more likely to be a flower, “where the memory of the crocus is preserved by the protrusion of the central petal.”<sup>123</sup> This crocus head can be seen on pottery from other sites as well, as for example at Palaikastro (Table 1:21), where the excavators deemed it a shell, and Keos, where it is again interpreted as a crocus.<sup>124</sup> It is also the type noted above in the frescoes from the Cult Center at Mycenae. Detached crocuses also appear on a large amphora from the area of the shrine at Zakros, as well as at Gournia, Mallia, and Palaikastro.<sup>125</sup>

The LM II–IIIB period on Crete is seen as a time when the island came under some form of Mycenaean control or influence, although the exact nature of the relationship remains much discussed.<sup>126</sup> Ceramic decoration

114. *Thera* V, pl. 64; VI, pl. 74:a; Doumas 1983, p. 119, fig. 19.

115. Koehl 2006, pp. 132, 141, nos. 379, 435; Sackett and Popham 1970, pp. 217–218, fig. 9, left.

116. Müller 1997, pp. 151, 386–387, no. SA1 200, fig. 82, pl. 71 (attributed to the Olive Spray Painter).

117. *Mochlos IB*, figs. 18 (IB295), 20 (IB302).

118. Tyllissos: *PM* IV.1, p. 286, fig. 220. Knossos: *PM* IV.1, p. 287, figs. 221, 222. Palaikastro: Dawkins 1902–1903, p. 311, fig. 9. Keos: *Keos* III,

pls. 53, 85. Kythera: Coldstream and Huxley 1972, pl. 54:164. See Betancourt 1982 for a study of this motif.

119. Coldstream and Huxley 1972, p. 299.

120. Coldstream and Huxley 1972, pl. 33:8, 9.

121. Archanes: Sakellarakis and Sapouna-Sakellarakis 1997, p. 440, fig. 418. Keos: Caskey 1972, pl. 95:H19; *Keos* III, pl. 86:1564, 1570. Knossos: *PM* II.2, p. 470, fig. 276:k.

122. Coldstream and Huxley 1972, pl. 33:3, 4.

123. Coldstream and Huxley 1972, p. 299.

124. Palaikastro: Sackett and Popham 1970, pp. 217–218, fig. 9, right. Keos: *Keos* III, pls. 54:c, 55:b, 75:1157.

125. Zakros: Platon 1985, p. 117. See Niemeier 1980, p. 23, fig. 4, for other “sub-LM IA” detached crocus heads.

126. A useful recent summary of the debate, with references, can be found in de Fidio 2008, pp. 93–96.

became more stylized at this time, and flowers, although still important as motifs, are more difficult to identify. LM II floral iconography has been described as preferring the ornamental over the pictorial, in contrast to the effect of naturalness evident in Neopalatial examples.<sup>127</sup> Yet the crocus is still recognizable on a LM II cup from the Unexplored Mansion at Knossos, where a broad band around the upper half of the vessel is filled with small, solid crocuses with prominent styles, although the three petals are no longer carefully distinguished from each other (Table 1:22).<sup>128</sup> A cup of this date from the South House features a crocus fragment on the exterior, again recognizable by the stigmas; it may have been similar to the crocus found on a sherd from the Unexplored Mansion, where the flower no longer grows from a ground line, but hangs as an isolated element ending in a spiral (Table 1:23).<sup>129</sup> A detached flower head similar to those found in LM IB (see above) has been identified on a Knossian Palace Style jar.<sup>130</sup> The tufts of small flowers on a LM II pyxis from the Unexplored Mansion (Table 1:24) may be a stiffer version of the crocus clumps seen in Neopalatial frescoes, and possibly also on the gold rings discussed below, although this may push the interpretation too far.<sup>131</sup> Of particular interest is a crocus on a sherd from room H of the Unexplored Mansion (Table 1:25).<sup>132</sup> Here the stigmas initially curve upward, then flop down outside the petals, producing a form that matches the depiction of the flower in the earliest (and perhaps contemporary) Linear B tablets (Table 1:26).<sup>133</sup> In the LM III period floral motifs become even more stylized, and there is a greater interest in symmetry.<sup>134</sup> The majority of LM IIIA floral motifs are stylized papyrus and lilies, and by the end of this period naturalistic motifs have mostly been abandoned or geometricized into new patterns, far from their floral ancestors. Crocuses seem to be discarded in favor of other flowers, although the occasional example occurs, such as one from Amnisos.<sup>135</sup>

The decline in crocus iconography on Aegean ceramics produced after ca. 1450 B.C. cannot be attributed simply to the diminishing role of floral imagery in Mycenaean times, for other floral motifs, such as lilies, papyrus, and ivy, remain popular, and indeed become prevalent. In fact, as will become clear below, the decline corresponds with the general disappearance of the crocus motif from all media at this time, with the exception of Linear B tablets.

Crocus-decorated ceramics are most common on Crete, but are also found frequently at Cycladic sites with Minoan contacts (Akrotiri, Ayia Irini, Phylakopi), as well as on Kythera. By contrast, Furumark identified only four examples of the crocus as a ceramic motif at mainland Greek sites, all from early in the Late Helladic (LH) period, and it is not among the LH IIA floral motifs discussed by Mountjoy.<sup>136</sup> There are a few examples of chains of probable crocus heads on LH I vessels, similar to the detached examples discussed above, but the variety of crocuses evident elsewhere is lacking.<sup>137</sup> Indeed, in many instances where crocuses have been identified on the mainland, they are imports from Crete, as on a LM IA sherd found at Korakou.<sup>138</sup> The notable lack of crocuses on mainland ceramics seems unlikely to be an accident of preservation, and suggests a special relationship between the flower and the Minoans, a point to which I shall return below.

In general, when the crocus appears on pottery together with other motifs, these tend to be the same as those seen in wall paintings. Birds and

127. Furumark 1941, p. 167.

128. Popham 1984, p. 161, pl. 148:1.

129. South House: Mountjoy 2003, p. 228, fig. 4:30. Unexplored Mansion: Popham 1984, pl. 96:b.

130. Niemeier 1985, pp. 63, 237, no. II.B.3, fig. 20:18, pl. 11.

131. Pyxis: Popham 1984, pl. 155:1.

132. Popham 1984, pl. 96:a.

133. Chadwick et al. 1986, p. 44, tablet Np 85. The earliest Linear B tablets featuring the saffron ideogram come from the Room of the Chariot Tablets at Knossos, dated by Driessen to a destruction in the LM IIIA1 period (Driessen 2000, p. 10; 2008, p. 72).

134. Furumark 1941, pp. 169–213; Popham 1967, p. 345.

135. Kanta 1980, pl. 14:3.

136. Furumark 1941, p. 263, motif 10, fig. 33; Mountjoy 1993, pp. 46–48.

137. See Dickinson 1974, p. 110, fig. 1, for crocus chains in LH I. See also Niemeier 1980, pp. 57–58.

138. Davis 1979, p. 240, fig. 3:12.

animals are especially prominent on Thera ceramics, which perhaps had an influence on the LM IB Cretan fresco repertoire. In contrast to frescoes, however, human figures seldom appear on Minoan pottery, apart from rare instances in the Protopalatial period. Nor does there appear to be a correspondence between crocus iconography and any particular vessel shape. It has been suggested that some of the objects noted above (kymbai, tripod tables, rhyta) were used in ritual, but crocuses appear on many other shapes as well, including cups, strainers, large and small jars and jugs, stirrup jars, and pyxides.<sup>139</sup> While any of these vessels might have had ritual functions, they could equally have been used for consumption, or indeed as multifunctional vessels. Crocuses do not appear on vessels used for storage or cooking, although floral decoration is generally lacking on these types anyway. It is worth considering too whether the vessels painted with crocuses had any specific connection with the plant itself or the saffron produced from it. Did the askoi and stirrup jars from Akrotiri hold saffron-colored or saffron-scented oils, with the crocus motifs on the exterior serving as labels? Could the strainers have played a role in the drying of the spice, with raw stigmas placed inside and then set over a gentle heat for dehydration? Future residue analysis may help answer such questions.<sup>140</sup> Vessels in all these forms also exist without crocus decoration, however, and no obvious link between the imagery, the contents, and the shape can be discerned.

## STONE

Stone vessels of the Early and Middle Bronze Age tend to have abstract decoration, if they are decorated at all, but Neopalatial stone lamps may display floral motifs, either on the rim, for those without pedestals, or, in the case of taller lamps, on the pedestals themselves.<sup>141</sup> Ivies and lilies can be recognized, but not crocuses.

In the Neopalatial period, stone vessels with detailed relief scenes become popular, although floral motifs do not appear on the majority of these either.<sup>142</sup> A relief rhyton from Zakros, however, which is thought to depict a peak sanctuary, features a clump of crocuses growing in the rocky ground around the shrine.<sup>143</sup> Here the plant is unmistakable and closely resembles those found in the frescoes at Knossos. Two conical shapes rise from the rocks above the crocus clump, which Shaw identified as “sprays of vegetation” and Koehl as “clumps of crocus without blossoms.”<sup>144</sup> While these might be plants, they do not resemble any of those familiar from Minoan iconography. A better option may be to see these shapes as representations of vessels stuck into a crack in the rock: flower pots, or conical rhyta to funnel libations into the ground, or perhaps even containers to hold the adjacent crocus flowers. A fragment of a stone vessel from Gypsades depicts a basket placed outside another mountain shrine.<sup>145</sup> The basket is remarkably similar to those that hold crocuses for the goddess in the fresco in Xeste 3 at Akrotiri, although whether crocuses should be understood as the contents of the Gypsades basket is debatable.

Bevan has tentatively suggested that stone blossom bowls represent crocuses; he sees the consistent six-petal design as indicative of a specific

139. For nonritual uses of rhyta, see Koehl 2006, pp. 277–370; Haysom 2007, pp. 302–303.

140. Organic residue analysis of ceramics from Pseira and Chrysokamino has identified isophorone, a compound whose only known natural source is saffron (Beck et al. 2008; Beeston et al. 2006, 2008). Saffron was not identified, however, in an organic residue analysis of vessels from the perfume workshop at Mochlos (Koh 2008).

141. Warren 1969, p. 50; Hood 1994, p. 141.

142. E.g., the Harvester vase (Higgins 1997, p. 154, fig. 191); the Boxer rhyton (Hood 1994, p. 145, fig. 139).

143. Higgins 1997, p. 157, fig. 193.

144. Shaw 1978, p. 433; Koehl 2006, p. 103.

145. Warren 1969, pl. 476.

flower.<sup>146</sup> The grooves along the center of the petals, however, are not characteristic of crocuses in any other material. Finally, a pair of limestone floral half-capitals from Knossos should be mentioned here: while one resembles a poppy capsule, the other has three distinct, ungrooved petals, a hallmark of the crocus in other media.<sup>147</sup>

## FAIENCE

The MM IIIB Temple Repositories at Knossos are the main context for Minoan faience artifacts. Several faience models of flowers were recovered here, including two small ones identified by Evans as “saffron flowers,” i.e., crocuses (Fig. 9).<sup>148</sup> They have short stems, three petals, and stigmas between the petals—all features of crocuses when depicted in other media. Foster, however, in her study of Minoan faience, identified them as “two purple safflowers.”<sup>149</sup> This is a problematic interpretation for two reasons: first, safflowers are not purple, but red or yellow; second, safflowers are completely different from crocuses in shape, with globular heads of small spiky petals. So although Foster correctly cites Linear B records of safflower as proof of the use of this plant in the Late Bronze Age, it seems likely that she has mistaken Evans’s “saffron flowers” to mean safflower. More recently, Panagiotaki has agreed with Evans and concluded that these two flowers are most likely crocuses.<sup>150</sup>

Accompanying these crocuses in the photograph published in the *Palace of Minos* are two flower buds (Fig. 9), a juxtaposition that gives the impression that these too are to be identified as crocuses. While they do indeed resemble crocus buds, there is another possibility. Panagiotaki has published a faience lotus from Knossos, previously reported by Evans but not illustrated in the *Palace of Minos*.<sup>151</sup> The color of the buds matches that of the lotus, which suggests that they may actually be lotus buds rather than crocus buds.

Other crocuses are visible on the faience “votive robes and girdles” found in the Temple Repositories.<sup>152</sup> Crocuses are painted on the lower parts of two plaques in the form of dresses, while a fragmentary third, not published by Evans, may also have featured the same decoration.<sup>153</sup> The larger dress has a border of “dark brown saffron flowers” along the bottom and above it a clump of the same flowers growing out of a small mound (Fig. 10).<sup>154</sup> The smaller dress has no crocus border, and the clump contains fewer flowers. These clumps are the characteristic way of depicting growing crocuses in Minoan frescoes, as noted above.<sup>155</sup>



Figure 9. Faience crocuses and buds from the Temple Repositories, Knossos. MM IIIB. *PM* I, p. 500, fig. 358

146. Bevan 2007, pp. 130–131. See Day, forthcoming b, for a different interpretation of these bowls.

147. *PM* II.2, pp. 814–815, suppl. pl. XXX.

148. *PM* I, pp. 499–500, fig. 358.

149. Foster 1979, p. 83.

150. Panagiotaki 1999, p. 77, fig. 19, pl. 9:d.

151. Panagiotaki 1999, p. 76,

n. 59, pl. 9:c; originally published in Evans 1902–1903, p. 68, fig. 45.

152. *PM* I, p. 506, fig. 364.

153. Panagiotaki 1999, p. 101, fig. 27.

154. Foster 1979, p. 86.

155. Although the identification seems certain, precisely how the decoration was meant to be understood is not clear (see n. 204, below).

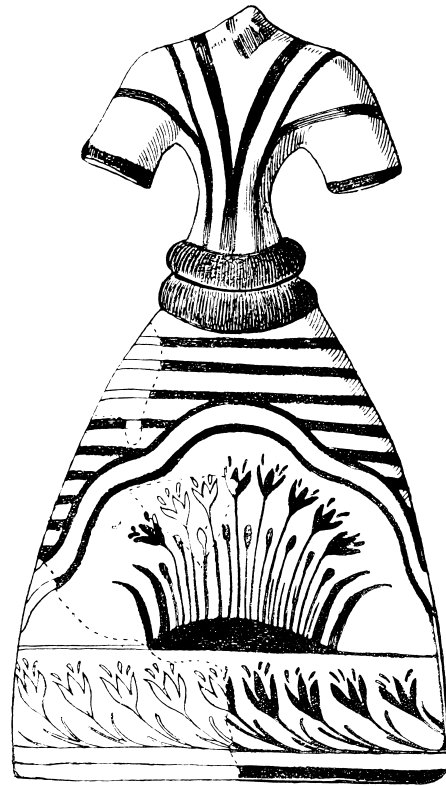


Figure 10. Faience dress plaque from the Temple Repositories, Knossos. MM IIIB. *PM* I, p. 506, fig. 364:a

Three faience girdles accompanied the robes, one of which is painted with “stylized brown saffron flowers with stems curling in spirals.”<sup>156</sup> This three-lobed flower emerging from a spiral is a feature found on Kamares ware and later ceramics as well.<sup>157</sup> While the crocus is not the only flower to be depicted in faience, it seems to appear more regularly than any other species, and the manner of its depiction mirrors that seen in frescoes and on pottery.<sup>158</sup>

## JEWELRY

Representations of jewelry in frescoes have already been discussed above; in this section I discuss actual surviving Bronze Age jewelry. (Gold rings, however, are treated in a separate category below, as their detailed figural scenes differentiate them from other jewelry.) The surviving pieces, primarily from burial contexts, consist of diadems, hair ornaments and pins, beads, pendants, and clothing ornaments and pins.<sup>159</sup> The popular Prepalatial and Protopalatial designs of leaves and foliate motifs are replaced in the Neopalatial period by an increasing range of recognizable flowers in bead form.<sup>160</sup> The crocus, however, is not immediately apparent in any of these periods. An EM II–III gold flower from tomb II at Mochlos is perhaps closest in form, but the number of petals and their shape is incorrect.<sup>161</sup> Trefoil beads are found in Prepalatial times (e.g., at Ayia Triada and Platanos),<sup>162</sup> but, as with the trifoliate motifs on early ceramics, it is unclear whether these are intended as depictions of a particular flower or are more generally floral.

156. Foster 1979, p. 89.

157. E.g., Levi 1976, pl. 126 (F408, from Phaistos). Bernini (1995, p. 58) suggested that spirals with emergent flowers could be understood as schematic representations of bulbs.

158. Faience flowers from Zakros are noted by Platon (1985, p. 147). See also the plants in the Town Mosaic from Knossos (Foster 1979, pl. 23:75, 76).

159. Higgins 1980, p. 53.

160. Higgins 1980, p. 65.

161. *PM* I, p. 97; Branigan 1974, pl. 19:2265; Higgins 1980, p. 55.

162. Branigan 1974, pl. 20:2283, 2285.





Figure 11. Steatite mold for beads, with crocus at right, from Kephala, Knossos. LM I–II. Hutchinson 1956, pl. 12:e. Courtesy British School at Athens

At Knossos, gold and glass crocus beads dating after the 15th century B.C. have been found in the palace and in the Royal Tomb at Isopata, and a steatite mold from a LM I–II tomb at Kephala (Fig. 11) was used for making crocus jewelry.<sup>163</sup> Beads found on the mainland and dating to the 13th century B.C. have been categorized as “bee type” (Fig. 12), but they do bear a remarkable resemblance to the examples from Knossos.<sup>164</sup> All of these examples are morphologically similar to the pendent crocus and festoons motif found on LM IB ceramics (see above).

A silver pin from Mavro Spilio, tomb IX, should also be mentioned.<sup>165</sup> It is inscribed in Linear A on one side, indicating a possible ritual or other special function, while the other side features tiny crocus flowers, incised with sufficient detail to ensure that the stigmas are visible.

Jewelry decorated with crocus motifs is rare, but when combined with depictions of women wearing crocus jewelry in frescoes, there is enough evidence to show that the flower was regularly depicted in this medium, perhaps especially during the Late Bronze Age.

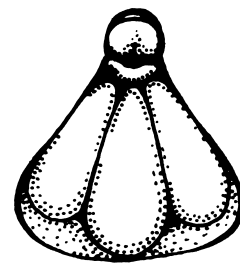


Figure 12. Bead of “bee type,” as found at Mycenae, Menidi, and Koukaki. LH IIIA–IIIB. Higgins 1980, p. 79, fig. 13:31. Courtesy University of California Press

## GOLD RINGS

The intricately carved gold rings of the Neopalatial period provide another forum for scenes featuring plants, often with human interaction. Such scenes have been thought to depict moments in rituals, although there is little agreement about their nature and meaning.<sup>166</sup> Recognizable flowers, as opposed to trees or plantlike tufts, are rare in glyptic art, no doubt partly because of the small size. Yet Warren has identified the sea squill (*Drimia maritima*, syn. *Urginea maritima*) on rings and sealings, and poppy capsules and lilies can be recognized on the gold ring from the Acropolis Tomb at Mycenae (which is admittedly slightly larger than Minoan rings).<sup>167</sup> These examples demonstrate that it was indeed possible to depict identifiable plants even at such a small scale.

A well-known gold ring from Isopata, Knossos, depicts female figures usually identified as three worshippers and a goddess; the scene is traditionally interpreted as an epiphany (Fig. 13).<sup>168</sup> It is notable for the prominent position of flowers within the tableau. Conventionally identified as lilies, the plants may in fact represent different species.<sup>169</sup> The largest plant growing in the foreground is indeed reminiscent of the tall lilies seen in frescoes, although the fine details of the flowers are not evident on the ring. To the left are three other clumps of vegetation. It seems unlikely that

163. Knossos and Isopata: Higgins 1980, p. 76. Kephala: Hutchinson 1956, p. 80, pl. 12:e.

164. Higgins 1980, p. 79, fig. 13:31.

165. Alexiou and Brice 1972.

166. See, e.g., Cain 2001; Morris 2004; Day, forthcoming b.

167. Warren 1984; Niemeier 1990, p. 167, fig. 1.

168. *PM III*, p. 68, fig. 38.

169. For the lily identification, see, e.g., Higgins 1997, p. 185.



Figure 13. Gold ring from Isopata, Knossos. LM I. PM III, p. 68, fig. 38

the same flower was intended here, for the plants are much shorter, with a larger number of more rounded flower heads. These clumps, especially the two behind the female figure on the left, are perhaps more similar to the clumps of crocuses seen in frescoes, such as those at Ayia Triada, or on the faience dresses from Knossos (Fig. 10). This may be a glyptic shorthand for crocuses, a suggestion supported by further examples of similar clumps of flowers on other rings. On a ring from Poros, a clump of short flowers grows at the left of the scene, beneath a bird and a female figure; these have been identified elsewhere as crocuses.<sup>170</sup> On a ring from tomb 4 at Sellopoulo, near Knossos, another clump of flowers sprouts, this time beneath a tree.<sup>171</sup> These too may perhaps be understood as crocuses, for the flowers are morphologically similar, and other elements of the scene (birds, tree, worshipper, hovering objects)<sup>172</sup> are also found in the two previous examples. While the tiny scale of these examples precludes an easy identification of any floral species, analogy with other contemporary media suggests that in many cases the clumps of small flowers may have been intended to represent crocuses.

### SEALS

Seals are among the more abundant artifact types of the Aegean Bronze Age. As in the case of pottery, a complete catalogue of possible crocus imagery in sphragistic art is beyond the scope of this study. The small scale of seals, comparable to that of gold rings, adds to the difficulty. Indeed, on some seals the same decorative elements have been identified as different objects, thus demonstrating how even basic identification involves interpretation.<sup>173</sup> Yet familiarity with Minoan crocus iconography in other media enables us at least to attempt to identify depictions of the flower on seals as well. By comparison with contemporary floral imagery on pottery and frescoes, it is possible to recognize on seals plants that have been reduced to their essential elements for the purposes of engraving, yet remain identifiable.

Already in the Early Bronze Age sealstone motifs include depictions of plants. These appear either as the main motif, filling the face of the seal, or as subsidiary elements around the main subject. Three-lobed motifs occur relatively often, usually as smaller tufts growing out of whorls, as on a steatite

170. Dimopoulou and Rethemiotakis 2000, pp. 43–44, 47–48, figs. 4, 7.

171. Popham, Catling, and Catling 1974, pl. 37:a, b.

172. Objects that appear to hover in midair are a feature of LM gold rings that show ritual action. Their meaning has been much discussed; see, e.g., Morris 2004; Kyriakidis 2005.

173. Morgan 1985, p. 8.



Figure 14 (*left*). Sealstone with male figure, ape, and trifoliate motifs, from Prassos. LM I. *CMS* III.2, no. 357. Courtesy Walter Müller and *CMS*

Figure 15 (*right*). Jasper sealstone with Cretan hieroglyphic of crocus. MM II. Evans 1909, p. 156, no. P31:c

button from tomb A at Ayia Triada.<sup>174</sup> A similar arrangement is found on Kamares ware, where three-pronged flowers appear between spirals and petaloid loops on a regular basis. In this period, on seals as on ceramics, it is not possible to say whether these three-pronged flowers are crocuses or generic flowers. In later periods, however, it may be possible to recognize attempts to depict specific flowers on seals, as care seems to be taken to distinguish petal number and other aspects of floral anatomy, and the seals show yet again the same combination of motifs seen in frescoes, ceramics, and rings. On a LM I seal from Knossos, for example, a horned animal is surrounded by crocuslike flowers; on another of similar date a female in a flounced skirt stands beside a plant with obvious styles.<sup>175</sup> Monkeys, too, accompany trifoliate flowers on seals (Fig. 14).<sup>176</sup> The clearest sphragistic crocus occurs on a green jasper sealstone bearing Cretan hieroglyphic sign 023, unique for the detail of its depiction (Fig. 15).<sup>177</sup> Indeed, this may be an example of the use of hieroglyphic script in an ornamental rather than syllabic fashion.<sup>178</sup>

With the exception of this sealstone, the identification of crocuses in glyptic and sphragistic art remains challenging. Three-pronged motifs may or may not be intended as crocuses on EM and MM seals, and in later periods identifiable flowers are relatively rare. Nevertheless, in view of the pattern seen across all media, in which crocuses appear regularly with women, monkeys, agrimia, and rocky landscapes, it is possible that the motif may be identifiable on seals and rings as well.

## IVORY AND METAL

In addition to those media in which crocus imagery is either certainly present or potentially identifiable, there are others in which the flower does not appear: ivory or bone, metal vessels, and weapons. Prepalatial use of ivory may have been limited to sealstones, but the Palatial periods saw

174. *CMS* II.1, no. 90.

175. *CMS* II.8.2, no. 410; III.2, no. 349.

176. *CMS* III.2, no. 357.

177. *CMS* XI, no. 12; *CHIC* no. 243.3.

178. Day 2011, p. 383; more generally, Olivier 1990, p. 13.

the production of ivory figurines, such as the bull-leapers from Knossos and the Palaikastro kouros.<sup>179</sup> Ivory was also used as an inlay, especially for furniture, and it is in this format that floral motifs occur: examples from Knossos include bone flowers and buds (perhaps pomegranates) from the Temple Repositories and rosettes on a gaming board.<sup>180</sup> To find a significant number of plant depictions in ivory, however, it is necessary to turn to the mainland and make a chronological leap to a series of LH IIIB inlays from Mycenae, which include numerous lilies and ivy.<sup>181</sup> Crocuses have not, to date, been identified in any form of ivory from any Aegean Bronze Age site.

Few metal vessels survive from Prepalatial or Protopalatial Crete, and those that do rarely have any decoration.<sup>182</sup> On decorated examples, floral motifs are infrequent, although rosettes are sometimes found, as, for example, on a cup from the Aegina treasure.<sup>183</sup> For metal vessels of the later Bronze Age, the Shaft Graves at Mycenae are the best source of evidence. Cups again feature rosettes, and the Siege rhyton depicts a grove of trees.<sup>184</sup> The scenes on two gold cups from Vapheio also include trees, and ivy and lilies can be recognized on bronze vessels from Knossos.<sup>185</sup> Crocuses, however, cannot be identified on any metal vessels.

Bronze Age swords and daggers often bear decoration; on swords it tends to be limited to the grip and hilt, while daggers can be inlaid along the blade as well. The Shaft Graves at Mycenae again provide the largest number of examples. Swords of types A and B feature “sacral ivy” motifs, along with the more common scale and net patterns, spirals, and animals.<sup>186</sup> Animals are popular on the inlaid daggers, but plants occur as well. A dagger from grave V at Mycenae, for example, has gold lilies inlaid on the blade and in relief on the handle.<sup>187</sup> Daggers decorated in this technique have not been found on Crete, and daggers or swords decorated with crocuses are not recorded anywhere, with one possible exception: Rehak and Younger have reported a lone crocus on the gold hilt of a sword from Zapher Papoura, although this is not visible in any published image.<sup>188</sup>

Whether the absence of crocuses on surviving ivory and metal objects is an accident of poor preservation or a meaningful pattern remains unclear. Since other species of flowers are depicted, it may be that the items made from these materials (mainly furniture inlays and weapons) were not suited to crocus imagery, or that the materials themselves were thought intrinsically inappropriate for this motif.<sup>189</sup>

179. Hood 1994, pp. 117–122; Poursat 1992.

180. *PM* I, pp. 471–482, 496, pl. V.

181. Tournavitou 1995.

182. Branigan 1974.

183. Higgins 1979, p. 41, figs. 42, 43.

184. Cups with rosettes: Hood 1994, p. 159, fig. 151; Siege rhyton: Vermeule 1964, pl. XIV.

185. Vapheio cups: Hood 1994, p. 166, figs. 160–163. Knossos:

*PM* II.2, pp. 642–643, figs. 408, 409:a.

186. Hood 1994, pp. 175–176.

187. Marinatos and Hirmer 1960, pl. 170.

188. Rehak and Younger 2001, p. 449.

189. See Hosler 1995 for an example of the way in which specific materials can be seen as imbued with special properties.

## INTERPRETATIONS

The observation by Evans that “a flourishing Cretan [saffron] industry” must have been “one of the sources of wealth to the lords of Knossos” is the earliest suggestion that crocuses were important to the Minoans for saffron production.<sup>190</sup> The idea that the spice could have brought economic benefits to Akrotiri as well was advanced by Doulas, who wondered whether “the owner of Xeste 3 could have been a merchant involved in the collection and/or distribution of saffron,” and by Amigues, who noted that it would have been a valuable resource for the island.<sup>191</sup> As observed above, the great effort required to produce the finished product from the flower has ensured that saffron has always been an expensive commodity. This does not, however, explain why it was valued in the first place.

The continual depiction of crocuses from the Protopalatial period, if not earlier, until the end of Neopalatial times, a span of roughly 500 years, suggests that the plant and/or the spice played an important and ongoing role in Minoan life.<sup>192</sup> The emphasis in all media on depictions of the stigmas of the flower also suggests that these were an essential element of the plant, although there may have been uses for the petals, stamens, and bulbs too.<sup>193</sup> The two most widely proposed explanations for saffron’s social and economic value are its usefulness as a dye and as a medicine.

### SAFFRON AS A DYE

For thousands of years, saffron has lent a golden hue to a wide range of materials. Crocin, the compound responsible for the color, can dye up to 150,000 times its own weight.<sup>194</sup> Evans saw the spice as a source of yellow dye, perhaps to be associated with the robes of priestesses or even divinities.<sup>195</sup> Although actual yellow cloth has not been recovered from any Bronze Age Aegean site, depictions of yellow textiles are plentiful. The Priestess from the West House at Akrotiri, for example, is wearing a long yellow robe (Fig. 4), and another of the older women from Xeste 3 (room 3b, upper level) wears a yellow diaphanous top and carries a yellow fleecelike item.<sup>196</sup> Diaphanous yellow cloth is also worn by the young girl on the right in the Adorants scene (Fig. 1) and, further afield, by the miniature female figure in the fresco from the Cult Center at Mycenae.<sup>197</sup> The women painted in the miniature scenes from Knossos, the Grandstand and the Sacred Grove and Dance frescoes, wear yellow dresses, as do the misleadingly named Ladies in Blue.<sup>198</sup>

190. *PMI*, p. 265; IV.2, p. 718.

191. Doulas 1983, p. 76; Amigues 1988, p. 242.

192. Its role as an iconographic seasonal indicator, to signify either spring or autumn, has also occasionally been proposed as an explanation for its frequent appearance in art (Marinatos 1984, pp. 71, 92; Dimopoulou and Rethemiotakis 2000, p. 48). As noted

above, the saffron crocus flowers in autumn, but whether every depiction of a crocus was intended to represent a saffron crocus rather than a spring-flowering species is unclear.

193. Extracts from the petals, for example, may have medicinal properties (Fatehi, Rashidabady, and Hassanabad 2007), and the leaves can be used as animal fodder (Kafi, Hemmati Kakhki,

and Karbasi 2006, p. 9).

194. Humphries 1996, p. 15.

195. Evans 1899–1900, p. 30; *PMI*, p. 281; IV.2, p. 718.

196. Doulas 1992, p. 170, fig. 133.

197. Kritseli-Providi 1982, pl. 6:α.

198. *PM III*, pp. 46–67, pls. XVI, XVIII; Cameron and Hood 1967, pl. XII:b.

Saffron-dyed cloth is colorfast against both light and water, and thus is superior to other vegetal dyes, although it does require the use of a mordant to fix the color.<sup>199</sup> The purple petals can also be used for coloring, although this dye is less satisfactory than other available pigments.<sup>200</sup> Given the range of evidence for skilled textile production in the Bronze Age Aegean (loom weights, spindle whorls, murex shells, dress pins, iconography), an awareness of the properties of various dyestuffs must have existed, and saffron-yellow cloth could certainly have been produced. Tzachili has suggested that a cloth-making guild with an aim of surplus production may have operated at Akrotiri, and may have used saffron as a dye.<sup>201</sup> Barber has also drawn attention to the economic importance of cloth making in the Bronze Age and to the roles of women in its manufacture.<sup>202</sup>

An organized textile industry, with vibrant and attractive colors as its signature, would certainly have brought wealth to a community and ensured its economic success and reputation. Yet it is unlikely that all yellow cloth was saffron-dyed, when other, more easily produced yellow dyes were available.<sup>203</sup> It may be preferable to see saffron-dyed cloth as a luxury product, much like the purple of Roman emperors, or as ritual attire. It has been suggested that the figures wearing yellow in the frescoes were involved in some form of ritual activity; the crocus-decorated dresses and girdles from the Temple Repositories, as well as the inscribed pin from Mavro Spilio, perhaps point in this direction.<sup>204</sup>

It is worth noting that in Classical times yellow was a color considered suitable for women only.<sup>205</sup> The epithet "saffron-robed" is used in myth and epic to refer to nymphs and goddesses; in Aristophanes the term is used to imply that men are effeminate, while men masquerading as women wear saffron robes.<sup>206</sup> The robes of young girls who served Artemis at Brauron were saffron-dyed (*krokotoi*, Ar. *Lys.* 644–645), and it has also been suggested that the wedding veils of brides in Classical Greece were *krokos*-dyed, the term in this instance apparently standing for a range of colors on the yellow-red-purple spectrum.<sup>207</sup> Drawing direct analogies between the Classical period and the Bronze Age is ill-advised, but it is thought provoking that almost all of the examples of yellow cloth in frescoes are worn by women. Women wear other colors as well, of course, while men tend to wear loincloths with rather less scope for colorful decoration; nevertheless, the pattern may be significant, and Barber has noted that even in Egyptian depictions of the Keftiu (thought to be Minoans), yellow is

199. Barber 1992, pp. 113–116; Tsatsaroni, Liakopoulou-Kyriakides, and Eleftheriadis 1998; Liakopoulou-Kyriakides et al. 1998.

200. I owe this observation to R. Gola, a member of the Cooperative of Saffron Producers of Kozani. The use of petals to provide a natural food colorant is also being explored (Kafi, Hemmati Kakhki, and Karbasi 2006, pp. 7–9).

201. Tzachili 2005, pp. 115–116.

202. Barber 1994, p. 177.

203. Many plants provide dyes in shades of yellow, including onions, nettles, brooms, birches, and chamomile (Crawford 1993), as well as safflower, turmeric, and pomegranate rind (Barber 1991, p. 233). Sarpaki and Skoula (2010) have recorded 42 sources of yellow vegetable dyes on Crete.

204. It is unclear how the faience dresses and girdles should be understood. Do they represent textiles with

crocuses embroidered or in patchwork, or were the flowers simply painted on a single-use ritual garment? Or do the designs have a purely symbolic meaning that does not reproduce the decoration of real textiles at all (Barber 1991, pp. 320–321)?

205. Barber 1994, p. 116.

206. Barber 1992, p. 116.

207. Llewellyn-Jones 2003, pp. 224–225.

not a feature of male attire.<sup>208</sup> The fact that yellow loincloths are worn by figures on two frescoes of the later “Mycenaean” phase at Knossos—the Bull Leapers (whose gender is much debated) and the Cup Bearer—does not preclude a link between yellow cloth and women (engaged in ritual activity?) in Minoan times.<sup>209</sup>

It is important to bear in mind that things other than textiles can be dyed by saffron, although this fact is overlooked by most Aegean archaeologists. In the Middle Ages, women used it to tint their hair, fingernails, lips, and skin, as had Cleopatra centuries before.<sup>210</sup> Cameron suggested that saffron rather than henna may have been used to paint the yellow eyelids of some of the women in the Thera frescoes, but the idea of its use as a skin colorant has not otherwise been explored.<sup>211</sup> It is worth noting that in the ancient Near East, saffron, turmeric, and sumac all appear in cuneiform tablets in the context of stains for hands.<sup>212</sup> The ear of the Priestess in the West House at Akrotiri is painted in red, matching her dark lips (Fig. 4), while the two women in the House of the Ladies both have red streaks on their cheeks, and the surviving ear of one of them is outlined in yellow, as are the chin and nose of the Priestess. The ears of the women in the two mainland frescoes mentioned above, the Mykenaia and the Lily Bearer (Fig. 5), are also outlined in red, as are those of the Adorants, the Saffron Gatherers, and the Saffron Goddess from Xeste 3 at Akrotiri, where the red outlines contrast with the black that demarcates the other facial features and bodies of the figures. Red ear-decoration is not found on the older women from Xeste 3, nor on the female figures from Knossos whose ears are preserved, the Dancing Lady and the Parisienne, whose ears are detailed in black.<sup>213</sup>

Could the styles depicted on the cheek of the Saffron Goddess and older woman with a basket from Xeste 3 be a direct allusion to the use of saffron in skin coloring? Saffron diluted in water will stain skin an orange-yellow color.<sup>214</sup> Whether it was used in this way in the Bronze Age Aegean, and, if so, whether it was done as a beauty treatment or had deeper symbolism, are interesting questions. Body painting is a practice known to many societies, and it can be done for mundane reasons such as skin protection and beautification, as well as for special occasions such as initiation rites or mourning.<sup>215</sup> Such painting helps construct social identities, both for the wearer and the viewer, through the act of painting and the meanings of the paint itself.<sup>216</sup> Whether highlighting parts of the body by coloring was an aspect of Bronze Age Aegean society or ritual is a question that merits further exploration.<sup>217</sup>

208. Barber 1991, p. 338.

209. Cup Bearer: *PM* II.2, pp. 704–712, pl. XII. On the bull-leaping fresco and gender, see, e.g., Damiani Indelicato 1988; Hitchcock 2000; Alberti 2002.

210. Humphries 1996, p. 17.

211. Cameron 1978, p. 582.

212. Campbell Thompson 1924, p. 109.

213. Dancing Lady: *PM* III, pl. XXV, bottom. Parisienne: Kontorli-Papadopoulou 1996, pl. IV.

214. Experiments with a pinch of saffron soaked for 24 hours in 35 ml of warm water produced a dark orange-red liquid, which when applied to skin left a visible stain. Repainting darkened the tone, although not to red. Painting of ears is possible, albeit slightly awkward if attempted single-handedly.

215. See Fiore 2007 and 2008 for case studies of body painting. More generally, see Ebin 1979.

216. Fiore 2008, p. 246. On bodies

and identity, see Fisher and DiPaolo Loren 2003.

217. The possible links between body painting and the painted patterns on Early Cycladic figurines have been discussed by Hoffman (2002) and Hendrix (2003). Earle (2010) suggested a symbolic meaning for red-painted ears in the Aegean Bronze Age, linked to auditory experiences of the divine.

The possibility of using saffron to color food and drink should not be overlooked either. The color of dishes served at banquets became important in late medieval Europe, for example, where shades of yellow, in particular that produced using saffron, were especially favored.<sup>218</sup> One of the purposes of the coloring was to imitate gold, a substance with elite connotations as well as connections to paradise, as expressed in Gothic art.<sup>219</sup> While the decoration of a vessel does not necessarily reflect its contents, the numerous crocus-decorated cups and jars from the Aegean make it worth considering whether a saffron-enhanced beverage played a role at communal gatherings. The role of feasting in negotiating and maintaining status has been well documented, and such practices have recently been suggested for the Bronze Age Aegean.<sup>220</sup> The conspicuous golden hue of food or drink dyed with saffron could have been an obvious visual sign of status to those who attended such gatherings.

Perfumed oils were also probably colored, and again saffron could have been used in the process.<sup>221</sup> The golden color of these liquids perhaps provided associations with actual gold, but may have held other resonances as well. Color is a powerful means of expressing symbolic values and constructing difference, and scholars have recently begun to explore the social significance of color in the Aegean Bronze Age.<sup>222</sup>

#### SAFFRON AS A MEDICINE

Evans does not seem to have been aware of the medicinal values of saffron, but Möbius knew of its use in healing, and listed this as one of the reasons why the Minoans might have valued the plant.<sup>223</sup> Over 40 years later, Cameron was the next to mention the spice's medicinal properties, noting in particular its use in treating menstrual problems.<sup>224</sup> Spyridon Marinatos simply observed that saffron had healing properties, but Nanno Marinatos expounded on this as a key element in her interpretation of the frescoes in Xeste 3 at Akrotiri, which she linked to female initiation rites, a theory also espoused by Kopaka.<sup>225</sup> Young Forsyth focused on a different medicinal aspect of saffron: its potential to soothe inflamed eyes, an important consideration for those living on the windy volcanic island of Thera.<sup>226</sup> Rehak argued that the plant's importance was due to its richness in vitamin A, and suggested that "the Thera women not only cultivated and harvested the crocus and supplied themselves and their dependent children with the saffron, but since the red eyes of males apparently indicate that they had low levels of vitamin A, they also denied men access to saffron."<sup>227</sup> This hypothesis has received little scholarly reaction, apart from Waterhouse's succinct and damning conclusion that "it would take at least eleven people

218. Strong 2003, p. 85; Schier 2010, pp. 59–60.

219. Strong 2003, p. 85.

220. See, in general, Wiessner and Schiefenhövel 1996; Dietler and Hayden 2001. For the Aegean, see Halstead and Barrett 2004; Wright 2004; Hitchcock, Laffineur, and Crowley 2008.

221. Shelmerdine (1985, p. 29) discusses the coloring of perfume at Pylos.

222. Jones and MacGregor 2002, p. 12. On Bronze Age color, see, e.g., the papers by Blakolmer, Gillis, Muskett, and Nosche in Cleland and Stears 2004. A detailed study, such as that undertaken for Mayan society by

Houston et al. (2009), is still lacking.

223. Möbius 1933, p. 9.

224. Cameron 1978, p. 582.

225. *Thera* VII, p. 34; Marinatos 1984, p. 65; 1987, p. 132; Kopaka 2009.

226. Young Forsyth 2000, p. 158.

227. Rehak 2002, p. 50; see also 1999b.



working ten hours a day for a month to harvest the saffron needed to supply seven percent of the riboflavin and one percent of the vitamin A for just one nine-year-old girl.”<sup>228</sup> The most thorough investigation of medicinal uses of saffron, again prompted by the frescoes in Xeste 3, concludes by suggesting that the building may have been a kind of “clinic,” with frescoes to emphasize the relationship between the medicinal benefits of a specific plant and divine blessing.<sup>229</sup>

All of the therapeutic uses of saffron listed above have a basis in diverse medicinal traditions. Ancient Greek and Roman sources, as well as Egyptian papyri and Near Eastern texts, are helpful in showing the range of medicinal uses for saffron in the past. Pliny the Elder’s *Natural History*, for example, is rich in gynecological uses for the spice: it relieves “suffocation of the womb” (*HN* 21.139), and saffron and leek juice combined with hare’s rennet eases afterbirth, while a pessary of saffron in raw wool brings away a dead fetus (*HN* 28.248). *Azupiranu* (saffron) is mentioned 18 times in surviving Assyrian medical tablets.<sup>230</sup> Medieval herbals also cite saffron frequently, and modern scientific studies have proved that the spice has a variety of medicinal benefits, apart from containing substances that replicate female sex hormones.<sup>231</sup> For example, the components of saffron can affect carcinogenesis, and may have applications in fighting degenerative disorders of the central nervous system and memory impairment.<sup>232</sup> Recent tests have also investigated its antidepressive and anticonvulsant properties, its use in treating premenstrual syndrome, and even its potential as an antioxidant and antiaging treatment.<sup>233</sup> Aphrodisiacal powers have also been reported.<sup>234</sup>

The literary and anecdotal evidence of saffron’s medicinal value is thus backed up by recent scientific research highlighting the pharmacological properties of the spice. Ethnobotanical work has shown that traditional societies are highly aware of the medicinal potential of the plants that surround them.<sup>235</sup> It seems likely that in the Bronze Age Aegean, saffron would have been valued at least partly for its healing powers, and not just by women. Indeed, the apparent identification of saffron, together with other plant compounds, at the metal-smelting site of Chrysokamino in north-eastern Crete has been interpreted by some as evidence of the presence of a workshop for herbal remedies.<sup>236</sup> Because of the labor necessary to obtain even a small amount of the substance, however, it may have been reserved for special cases or special people, rather than used as an everyday panacea.

228. Waterhouse 2003, p. 408. For a more detailed rebuttal of Rehak’s proposal, see Day 2007, p. 159. Davis (1986) has suggested that the red eyes seen in some frescoes may be intended as an indicator of age.

229. Ferrence and Bendersky 2004, p. 221.

230. Campbell Thompson 1924, p. ix.

231. On herbals, see Riddle 1992. Scientific studies include Basker and Negbi 1983; Rios et al. 1996; Ferrence and Bendersky 2004, p. 216.

232. Abdullaev and Frenkel 1999; Abe and Saito 2000; Abdullaev 2002.

233. Akhondzadeh et al. 2005; Assi-mopoulou, Sinakos, and Papageorgiou 2005; Hosseinzadeh and Talebzadeh 2005; Agha-Hosseini et al. 2008.

234. I am grateful to the anonymous reviewer who brought this use (in contemporary Akrotiri) to my attention.

235. E.g., Densmore 1974; Milliken et al. 1992; Cotton 1996.

236. Beeston et al. 2006, pp. 420, 426; Beeston et al. 2008, p. 106.

### THE CROCUS AS A SACRED PLANT?

Evans referred to “sacred saffron-flowers” and suggested that the Saffron Gatherer fresco at Knossos had a religious meaning because the plant “was a special attribute of the Great Minoan Goddess.”<sup>237</sup> The Saffron Goddess fresco from Xeste 3 at Akrotiri (Fig. 1), usually interpreted as a representation of a goddess receiving offerings of saffron, seems to support this theory.<sup>238</sup> The idea that the crocus was an inherently sacred plant in the Aegean Bronze Age has been overshadowed in recent scholarship by the search for practical properties that might explain the flower’s apparent importance. Yet many societies hold certain plants sacred, and these plants tend to feature prominently in their art.<sup>239</sup> Often the reason for the special status of a plant can be traced to myths or stories in which it is linked with divinities or spirits, perhaps as a gift from these beings, perhaps also used as an aid in contacting them. Such explanations are difficult to substantiate archaeologically, but should be investigated nonetheless.

The lack of surviving literature makes it difficult to reconstruct the mythology of any Aegean Bronze Age communities. In art, crocuses are repeatedly associated with monkeys, agrimia, female figures, rocky landscapes, birds, and, at Akrotiri, dolphins, but whether these are meaningful juxtapositions, derived from elements of Minoan or Thera myths, is not a question that can be answered.

One might also ask whether the crocus was a sacred plant because of its ability to enhance communication with divinities or spirits. Interspersed among the references to saffron’s medicinal qualities in the early modern literature are a number of suggestive comments. Gerard’s *Herbal*, first published in 1597, notes that saffron “maketh a man merry,” while the 17th-century French botanist Joseph de Tournefort warns that too much could lead to death by laughing: “I saw a lady of Trent almost shaken to pieces with laughter immoderately for a space of three hours which was occasioned by her taking too much saffron.”<sup>240</sup> Nicholas Culpeper, an English physician and herbalist writing in the early 17th century, also notes this effect, remarking that “some have fallen into immoderate convulsive laughter, which ended in death,” a warning that echoes that found in Sumerian medical texts millennia earlier.<sup>241</sup> Schier has recently investigated the use of saffron in medieval nunneries, where it may have been one of a number of mildly psychoactive substances deliberately consumed to affect spiritual and sensory experiences.<sup>242</sup> Saffron is certainly pharmacologically active, and writers have always accompanied their medical prescriptions with a caveat against taking too much of the spice, which can be fatal. How much is too much is a judgment that varies from source to source, and depends on the purity of the sample, but the limit seems to lie within the exceedingly broad range of 1.5 to 20 grams.<sup>243</sup> Symptoms of saffron overdose include nosebleeds, vertigo, vomiting, a slowing heart rate, and ultimately even death.<sup>244</sup> Is it possible that, at amounts between a medically beneficial dosage and an overdose, the spice could have psychotropic effects?

Evans considered the possibility that Minoans used plant extracts to aid communication with the divine. He suggested that some of the scenes on rings may represent orgiastic dances, commenting that “it is the juice of the sacred fruit, like the Soma of the Vedas, that supplies the religious

237. *PMI*, pp. 265, 506.

238. See, e.g., Marinatos 1984, pp. 60–61; Doulas 1992, p. 131; Marinatos 1993, p. 151; Vlachopoulos 2008, p. 453.

239. Schultes and Hofman 1992.

240. Quoted in Stacey 1973, p. 5.

241. Humphries 1996, p. 10; Willard 2001, p. 15.

242. Schier 2010.

243. Basker 1999, p. 49; Ferrence and Bendersky 2004, p. 210.

244. Humphries 1996, p. 149.

frenzy, and at the same time implies a communion with the divinity inherent in the tree.”<sup>245</sup> This aspect of Minoan religion remains unexplored, a reticence that perhaps reflects the prejudices and preconceptions of modern scholars more than the reality of Bronze Age ritual practice.<sup>246</sup> Saffron’s chemical composition includes three key compounds—the carotenoid coloring pigments (crocin and crocetin); picrocrocin, which produces the bitter taste; and safranal, the volatile oil responsible for the aroma—as well as various proteins, sugars, and minerals.<sup>247</sup> Although this subject has been less thoroughly researched than the potential medical benefits of the spice, none of these compounds is known to have psychotropic properties, and experiments have not demonstrated any psychoactive effects.<sup>248</sup>

Nevertheless, while saffron does not contain any currently recognized psychotropic compounds, its distinctive aroma when burned could have been used to enhance ritual events. This would explain why the Priestess in the fresco from Akrotiri may be sprinkling saffron threads into an incense burner or brazier (Fig. 4). Braziers of various forms were used throughout the Bronze Age, although saffron is only one of many substances that could have been burned in them.<sup>249</sup> Whatever the substance, the smell would have further stimulated the senses of anyone in an altered or ecstatic state, as well as contributing to the creation of bodily memories by all participants. Such memories are formed by the incorporation of sensory experiences into the body, and work both retrospectively and prospectively.<sup>250</sup> They serve as reminders of past experiences and can foster feelings of social cohesion, but also are stored up to be later recalled at similar events, creating a cycle of remembering anchored in physical sensations.<sup>251</sup>

## CONCLUSIONS

A number of conclusions emerge from this diachronic study of the crocus motif in the material culture of the Aegean Bronze Age. First, although no small amount of effort has been expended on attempts to unravel the mysteries of the flower and its importance in the Minoan world, many previous studies have fallen short, primarily because of their concentration on one specific medium (usually frescoes), or on one specific aspect of the plant itself (such as its medicinal value). A more detailed exploration of the potential uses of saffron indicates that this potent substance had not one but many layers of meaning for the inhabitants of Bronze Age Crete.

Chronologically, while the vast majority of representations in art, both on Crete and elsewhere, date to the Neopalatial period, there may be antecedents as far back as late Prepalatial times. This conclusion depends on the acceptance of at least some of the early trifoliate motifs on jewelry, seals, and pottery as crocuses. Certainly the standard form of three petals forming a triangle first appears in the EM period. By the Protopalatial period the styles had become an essential factor in depictions of the crocus, and they remain a distinguishing feature of the plant for the next 500 years, an emphasis that suggests a knowledge of saffron. Following the destruction of the Minoan palaces, the crocus motif becomes somewhat rarer in the art of the LM II period, and is almost totally absent in LM III, although saffron is recorded in contemporary Linear B

245. *PM III*, p. 142.

246. Recent work by Morris and Peatfield (2001, 2006) has highlighted the possibility that altered states of consciousness played a role in Minoan ritual.

247. Ríos et al. 1996, pp. 189–190; Abdullaev 2002, p. 21.

248. Hosseinzadeh and Noraei (2009) did demonstrate that an aqueous extract of saffron can have antianxiety and hypnotic effects in mice, similar to those of diazepam.

249. See Georgiou 1973, 1979, and 1980 for studies of Minoan “fireboxes.”

250. Hamilakis 2008, p. 16.

251. On the role of smell in ritual, see Howes 1987; Classen, Howes, and Synnott 1994. For its application in a Bronze Age Aegean context, see Day, forthcoming a.

tablets. This decline corresponds with a period of suggested Mycenaean influence on Crete.

The crocus, while by no means the only identifiable flower in Minoan art, was clearly an important member of the Minoan iconographic repertoire, a status underlined both by its longevity and its appearance in many different media. Crocuses feature prominently on Cretan ceramics of EM date and continue right through to the LM II period. In wall painting, the flower is so far confined to the Neopalatial frescoes, where it is associated with women and certain animals, such as monkeys, agrimia, and birds, and also appears as painted jewelry or textile decoration. Examples of the motif on gold rings and other jewelry, seals, faience, and stone carving are mainly Neopalatial in date, but some earlier examples may be identifiable. In these media too the flower is associated with the same animal and female figures. It has not yet been recorded in ivory or metal (with the possible exception of the sword from Zapher Papoura), but it is not clear whether this is a meaningful pattern.

The morphology of the crocus across all these media is remarkably consistent: the flowers on the rhyton from Zakros, in frescoes from Ayia Triada, and on pottery from Knossos are all very similar. The iconography is not static, however, and developments can be observed over time. While the earliest examples on ceramics, seals, and jewelry are free-floating trifoliate, with the appearance of the motif on Kamares ware we see the addition of basal leaves to contextualize the flower. The flower head in the Protopalatial period may be filled out, becoming wider and less pointed than earlier examples, and a ground line begins to be used for the first time, thus anchoring the plant. An undulating ground line becomes one of the key elements in many of the Theran ceramic examples, and finds expression in the frescoes of Neopalatial Crete and Akrotiri as a rocky landscape from which the flower grows.<sup>252</sup> Nevertheless, crocuses suspended in midair, without landscape indicators, can still be found in the Middle and Late Bronze Age. Middle Cycladic Theran vessels employ them to fill the space around other motifs, and in LM IB the single crocus head develops into a solid motif with a protruding central petal, as noted in ceramic examples from Palaikastro, Keos, and Kythera, and in Mycenaean frescoes. The similarly stylized pendent crocus motif had already appeared in frescoes in the West House at Akrotiri, in association with marine features, and its use in jewelry demonstrates that it had an appeal in other media as well.<sup>253</sup> Yet another Neopalatial development is the clumping of crocuses in tufts, a feature found across media, from frescoes to gold rings and faience, as well as on the Zakros rhyton, but not seen to the same extent on pottery. The curved shape of many ceramic vessels may not have provided a satisfactory field on which to paint clumps rather than individual flowers. The painters of LM II pottery rejected ground lines, leaves, and clumps of flowers to return to the floating crocus once more; by this time, jewelry was the only other medium in which crocus motifs might still be found. A close link between the ceramic crocus motif of this period, with its curling stigmas, and the earliest versions of the Linear B sign for saffron also seems likely.

An examination of the other motifs with which the crocus tends to be associated reveals a pattern that extends across different materials. Links

252. See Shank 2001 for a discussion of the development of the rocky landscape on pottery and in frescoes.

253. See Morgan 1988, p. 31, on pendent crocuses and marine imagery.

between crocuses, quadrupeds, monkeys, birds, and women are a feature of Thera art in particular, but they also appear in Minoan Neopalatial iconography. Such consistent links across media are not evident in the representations of any other plant. In this context it is worth remembering Morgan's suggestion that crocuses, monkeys, and a female deity may all have been involved in a Minoan myth.<sup>254</sup> Many societies have myths that tell of the gift of a valued plant from a deity or other creature, who often imparts the secret of its use; the Aztec tales of Mayahuel and the discovery of pulque are a typical example.<sup>255</sup> Did the Minoans similarly mythologize the process by which they came to learn the secrets of saffron? Ethnographic work has shown that whole "symbolic packages" of a society's core myths can be represented in its art. Among the Huichol of Mexico, for instance, the trinity of peyote, deer, and maize embodies the sacred and life-giving elements that existed before mankind, and so represents the unity of past and present.<sup>256</sup> These elements appear as decorative motifs, and while they are interdependent on one another, they are meaningful separately too, and constitute a visual shorthand for what it means to be Huichol. The package of crocuses, animals, and women may have occupied a similar position in the Bronze Age Aegean. Understanding Bronze Age myths is a task that is probably beyond the modern archaeologist, but it is important to recognize that the natural world may have played important roles in Minoan and Thera ontologies, and found corresponding expression in their art.

To this end, it is worth pondering the character of a Minoan nature-view. Many traditional cultures have an intricate relationship with the environment, seeing their society as an extension of nature, as opposed to the dualist nature/culture divide that now prevails in the Western world.<sup>257</sup> Because the Minoans were not a mobile, hunter-gatherer society, it seems unlikely that they would have seen themselves as an indistinguishable part of nature, as such societies tend to do.<sup>258</sup> Perhaps Pálsson's "paternalistic" mode of interaction may be a more appropriate model, entailing a balanced reciprocity whereby humans both protect and consume the natural world.<sup>259</sup> Such an approach contrasts with that adopted by Nanno Marinatos, for example, who sees the landscapes in the Thera Ship Procession fresco as a symbolic code that represents "the realms of nature which are won over and conquered by the Minoans."<sup>260</sup> This idea of nature as something to be conquered is far from the way in which most preindustrial societies tend to see the world around them, and care should be taken before applying such modern concepts to cultures of the distant past.

As for the crocus itself, generations of scholars have suggested various reasons for its importance, focusing primarily on the use of saffron as a fabric dye or a medicine. Without doubt the spice has these capabilities, as well as the power to color food, liquid, and skin, and perhaps to enhance rituals through sensory stimulation. Yet saffron was not the only yellow dye in use in the Bronze Age, nor the only medicine, and there were other plants available for those in search of psychotropic effects. In a world where humans may see nature as something to be protected as well as a provider of resources, and where elements of the natural world may be "socialized" to varying degrees, the versatility of saffron is undoubtedly a key to understanding its special position within society.<sup>261</sup>

254. Morgan 1988, p. 29.

255. Brundage 1979, p. 158.

256. Furst 1972, pp. 141–142.

257. Posey 1999.

258. Pálsson 1996, p. 72. See Shapland 2010 for a discussion of this issue in relation to Minoan animal imagery.

259. Pálsson 1996.

260. Marinatos 2000, p. 913.

261. On the "socializing" of nature, see Pálsson 1996; Herva 2006.

A flower that provides colorful blossoms at a specific time of year, a vibrant yellow dyestuff, and a powerful medicine, and one that also has a distinctive taste and smell, could have increased in importance over time to become an essential plant in Minoan society. As Schier remarks, "What creates desire, and consequently demand, is the multisensory perception and reception of saffron."<sup>262</sup> A web of myth would likely have surrounded such a plant, perhaps describing how it arrived in the world and how humans learned of its powers, and reaffirming the ways in which it was to be used. As in many contemporary traditional societies, knowledge of its uses may have been restricted, perhaps to the elite, or to healers, or to religious specialists. It is even possible that the crocus became closely tied to Minoan identity, as the distribution of evidence, both geographically and chronologically, suggests. The flowers are primarily associated with sites on Crete and in the Cyclades; they rarely appear in the art of the Greek mainland or further afield. They have not been identified in the frescoes at Tell el-Dab'a, those on the painted floor at Tel Kabri are unclear, and the example from Trianda on Rhodes is most likely not a crocus either. As a motif, therefore, the crocus in the Bronze Age seems limited to the Aegean, where its special significance was understood, rather than to the wider Mediterranean world. Chronologically, the crocus motif reaches its apogee in Neopalatial times, before declining and ultimately disappearing during the LM II and LM III periods. It is notable that where representations of crocuses have been identified at mainland sites, they appear early in the Late Bronze Age, and are either of Minoan manufacture or at least exhibit clear Minoan influence.<sup>263</sup>

Evans's observation that the crocus must have been a flower of religious importance merits further consideration.<sup>264</sup> Many of the scenes or objects that bear crocus motifs have been thought to have had ritual functions or connections: gold rings, rhyta, kymbai, faience dresses, the inscribed pin from Mavro Spilio, and even some of the frescoes themselves. The identification of objects as "ritual" has been too common in Minoan studies, and much of the crocus-related material—various ceramic shapes, jewelry, seals, and frescoes—need not have had religious significance. Rather than trying to prove the religious importance of the flower, or attach to it any one specific meaning, perhaps it is better to see the crocus as having a broader cultural relevance for the Minoans. Its absence after the LM II period is surely no accident, and may reflect a deliberate rejection of a key element of the Minoan belief system by the new hegemony on Crete. During this period the crocus is transformed from a polysemic plant, tightly woven into Minoan cosmology, to a commodity of strictly economic value, its powers diminished and its saffron merely collected, weighed, and traded.

262. Schier 2010, p. 67.

263. Mountjoy (1993, p. 31) notes that the majority of Late Helladic ceramic motifs were borrowed from the Minoan repertoire.

264. *PM* I, p. 506.

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