

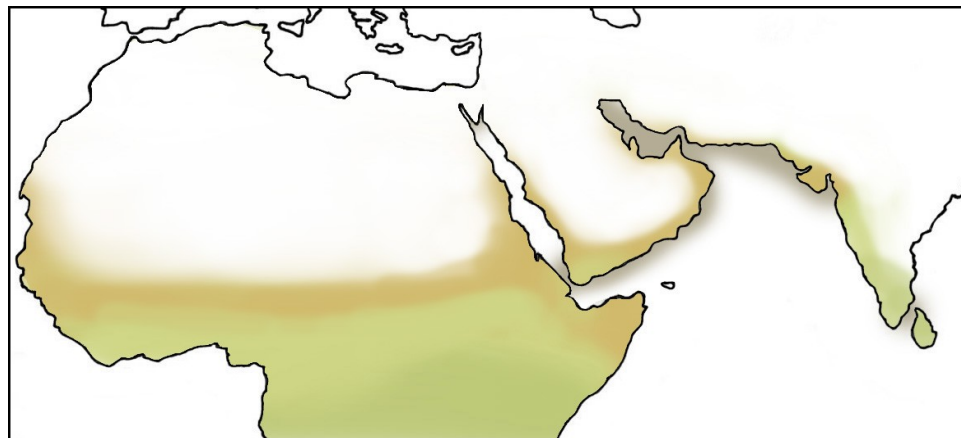
Ancient Sunrise® Henna for Hair Chapter 2

Part 1: The Evolution and Migration of Henna into Cultural Practices

Section 1: The History of Henna Hair Dye in Pre-History and Ancient Egypt

Evaluating claims of ancient henna use and searching for origins

Most discussions of henna begin with a statement such as, “the history of henna is lost in the swirling mists of time,” often as a preface to ‘henna originated in MY culture, and my culture has the only TRUE henna heritage.’ Cultural claims are important to the identity of cultures, and the fervor of belief in them is genuine. Henna has been around for a long time, and is well integrated into many cultures. There may be many discoveries, origins, independent and later entangled developments of the cultures of henna. Occasionally there are happy accidents of historical preservation such as the Ebers papyrus¹ in Egypt and wall paintings from the lustral basin in the palace at Herakleon² that provide us with a clear view of henna as it was *there*, henna as it was *then*, henna as it was on *that person*, and henna as a person used it *in that way*. When this sort of robust evidence such is lacking in the archeological record, an examination of proxy data can be used to evaluate the probable early use and cultural dissemination of henna in human cultural traditions.



Zones suitable for lawsonia inermis during quaternary glacial maximum

- Arid, semi-arid, and grassland
- Land bridges due to lower sea levels

Warm, semi-arid habitat suitable for henna at 18,000 BCE

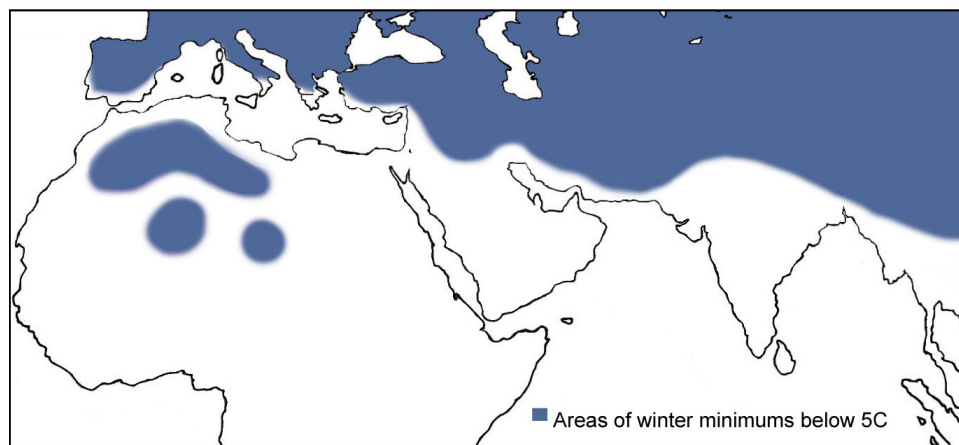
¹ Cartwright-Jones, C. 2016. “Theoretical Use of Henna in Prehistory” The Evolution and Migration of Henna into Cultural Practices, *Ancient Sunrise® Chapter 2, The History of Henna Hair Dye* http://www.tapdancinglizard.com/AS_henna_for_hair/chapters/chap2/Pre-History_Egypt.pdf

² Cartwright-Jones, C. 2016. “Henna, Astronomy, and the Agro-Ecology of the Mediterranean Bronze Age” The Evolution and Migration of Henna into Cultural Practices, *Ancient Sunrise® Chapter 2, The History of Henna Hair Dye*. http://www.tapdancinglizard.com/AS_henna_for_hair/chapters/chap2/Mediterranean_Bronze.pdf

During the most recent Ice Age, there was a broad area across Africa suitable for henna. The lowered sea levels created a very narrow gap from Ethiopia to Yemen, as well as a land bridge across the Persian Gulf up to the straits of Hormuz. Both henna plants and people could have migrated across this region. There is no direct evidence of human use of henna in the Arabian Peninsula and along the Arabian Sea coast the prior to 4000 BCE; the possibility of henna use can be constructed through proxy evidence.³

The biome of the Tigris and Euphrates basin warmed following the retreat of glaciation and the southern part of the region became frost free except for a severe cooling arid event around 6200 BC. Henna may have been subject to repeated frost extinctions and reintroductions from cooling and warming, sea level increase and recession in the Gulf region.

At the end of the last Quaternary glaciation, ice sheets melted back to near their present position. We can locate the probable areas henna would have extended its range out of North Africa into the areas where it currently grows. Henna can never grow in areas where the winter minimum temperature drops to freezing, so it would never survive in areas marked in blue in the map below. Henna trees become vulnerable and drop their leaves when the minimum temperatures drop to 5C, though they can survive prolonged heat.



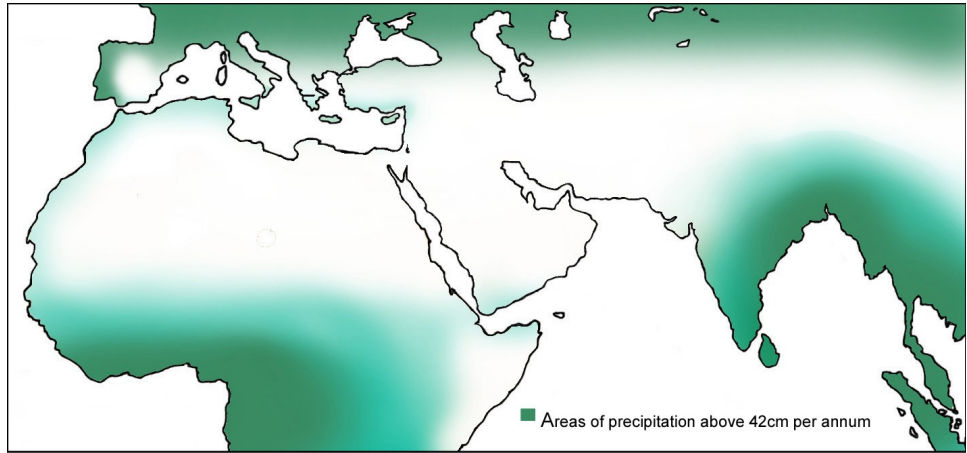
Map of current temperature minimums lower than 5C

Areas where henna is vulnerable to freezing temperatures in present climate

Henna is a small tree, and stays in the ground for fifty years, so the climate has to be warm and stay reliably warm for decades. Henna will grow from seed, but it does not grow as quickly and robustly as annual plants such as wheat does. Henna will survive long droughts and high summer heat, but does not thrive in wet soils with frequent rain. Therefore, henna growth is inhibited by

³ Just in case you're wondering, it is improbable that Neanderthals ever used henna, though there is evidence that they adorned themselves with red and yellow cosmetic materials; they left traces of lepidocrocite, haematite, pyrite, and charcoal in shells which anthropologists interpret as cosmetic preparations. It is possible that the Neanderthal population living in the southern Levant 60,000 – 50,000 BPE might have had access to henna during a warming climate phase. During this period, human and Neanderthal populations briefly overlapped and interbred in an area where the biome could have supported henna. It's an amusing daydream to think they briefly shared henna in mutual grooming, but there is no evidence to support such.

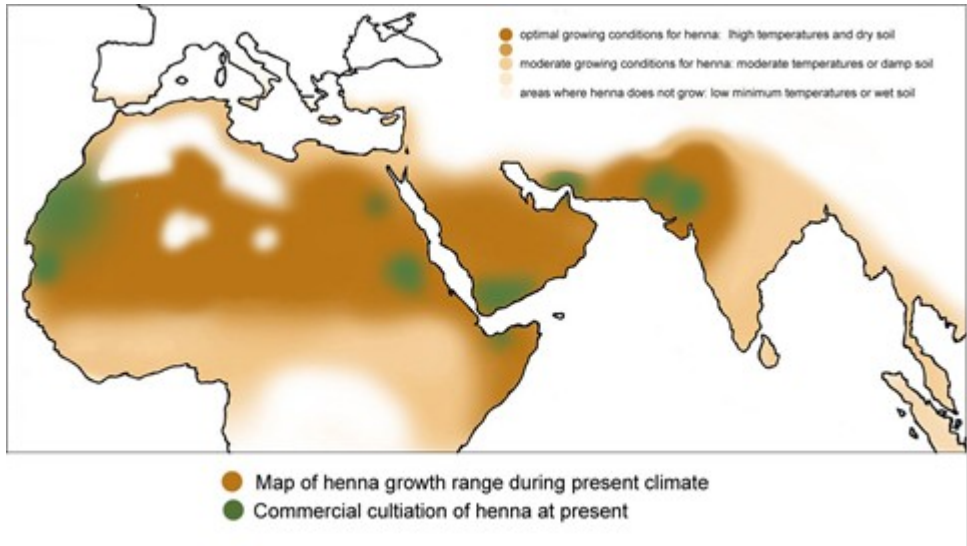
soil fungi and aphids in the areas marked in green in the following map and in northern areas would be killed off by any frost.



Map of precipitation over 42 cm per annum during present climate

Moist areas where henna is vulnerable to pests in damp soil

This leaves a narrow henna growing zone marked in browns on the map below where the plant will reproduce easily. The areas where henna grows well enough to be a commercial crop are marked in green. In the hyper-arid desert regions, henna grows at oases and along small seasonal watercourses. This zone has fluctuated during episodes of climate warming and cooling, but has generally remained stable since the advent of the Holocene. Therefore, when one begins to examine proxy evidence of henna use, climate is the first and foremost limitation. If henna is used culturally outside of this area, it would have arrived as a trade good and not grown locally.

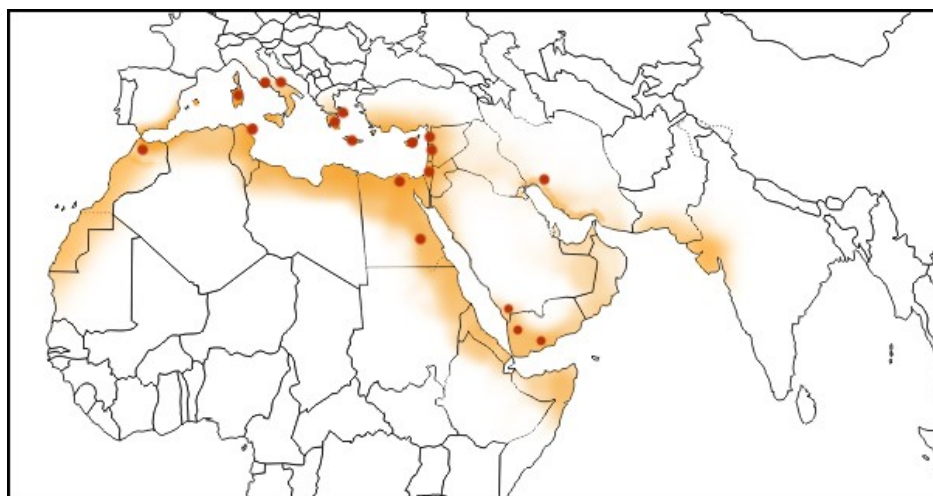


Map of present optimum henna growth range and commercial cultivation

If we know the present optimal areas for henna growth, we can look backwards through climate evidence in time to propose origin and dispersion from the Quaternary Glacial Maximum. The

largest land mass that could support henna during the last Ice Age is the area of North Africa, and probability, if nothing else, suggests that henna developed in and dispersed from there.

Henna plants grow in North Africa wherever seasonal precipitation is available and where temperatures do not drop to freezing. Henna thrives in soils that dry out for extended periods. Henna will withstand long droughts, so it is well suited to semi-arid regions with monsoonal flows. Henna is vulnerable to pests in damp soils and areas with floods or frequent precipitation. Henna probably thrived in the area that is presently the Sahara desert 14,800 to 5,500 BCE, during the African Humid Period, when the Sahara region was a subtropical savannah biome with large areas bodies of water, made fertile through a seasonal monsoonal flow rather than the hyper-arid climate that presently exists.⁴ This area began to dry out, first in the northern region of the Sahara and gradually extending south; as the monsoonal flows altered course the area became increasingly arid. People and plant life withdrew when they could no longer survive on the remaining water supplies. Though it is not possible to prove that people in the pre-arid Sahara were familiar with and using henna, there is proxy evidence from prehistoric plant pollen that the area was suitable for henna, and there is evidence that people who migrated out of that area as it became arid were familiar with henna and had established a working relationship with the plant.

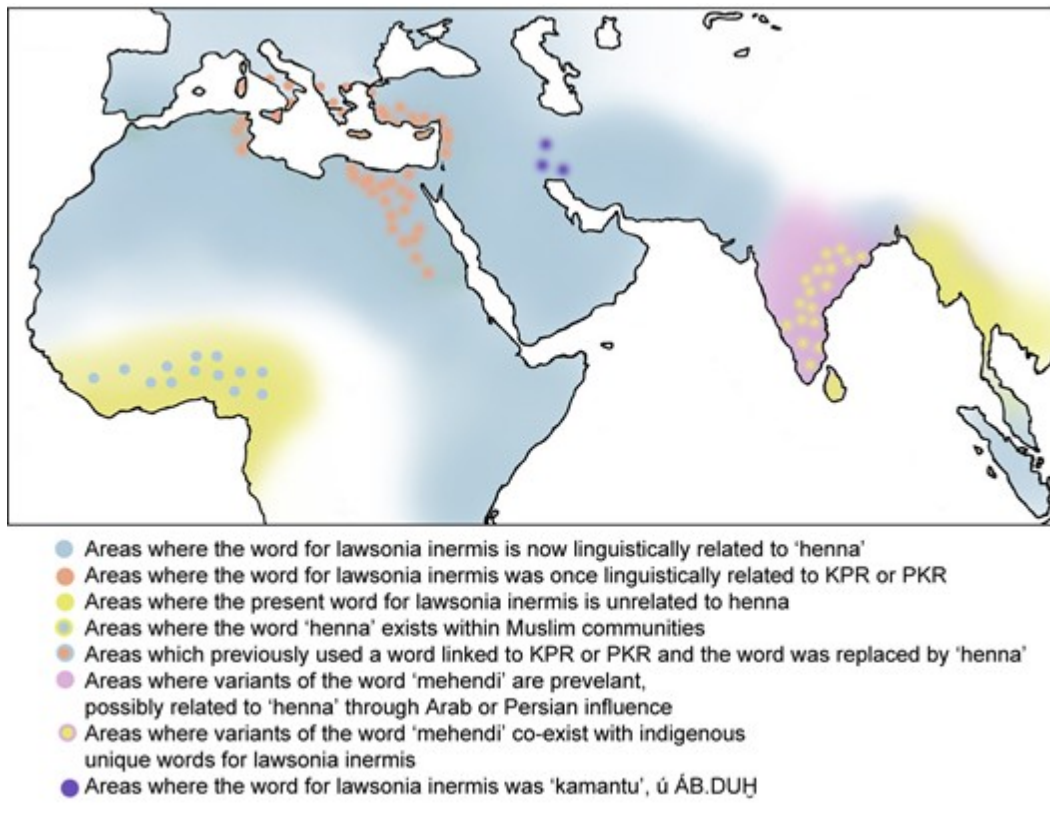


● Probable areas for henna use 3000 BCE to 0 BCE
● Locations of texts and artifacts consistent with henna use 3000 BCE to 0 BCE

⁴ The Milankovitch cycles caused by the precession of the equinoxes and obliquity of the earth's axis of rotation cause a slow cycle of intensification of monsoonal flow affecting the North African climate. The diversity of North African henna genotypes and absence of henna from the western hemisphere supports the probability that henna developed in North Africa, and spread by bird migration as well as human trade and culture movements. https://en.wikipedia.org/wiki/North_African_climate_cycles

The warmer climate during the prehistoric period may have also facilitated henna growth into an area farther north than at present, such as to Çatalhöyük in central Turkey where red hands are associated with a bull god, as were henna, fertility, and the bull god in later Minoan, Cycladic, and Ugaritic belief systems. The arid event and climate cooling that occurred around 3200 BCE, combined with the drying of the Sahara pushed henna into the growing regions where it remains at present: the frost free zones from latitudes 15° to 35° north. Henna would have been seeded by birds migrating on the Black Sea-Mediterranean Flyway, having consumed henna seeds in North Africa, and excreting them as they migrated north through wetland areas of the Eastern Mediterranean as the Sahara became arid. In the areas where henna grows naturally, the cultivation and understanding of henna are co-dependent with the cultures in the areas.

Henna culture seems to have developed differentially as the plant was utilized in disparate cultural regions, evolving in relative cultural isolation, then entangling during periods of cultural exchange. To observe this we can look at the words used for henna; we can see consistencies and differences, suggesting linked and independent developments of henna culture.



Map of different linguistic roots for the henna plant, lawsonia inermis

Prior to 1000 BCE, the words for lawsonia inermis among the cultures in the Mediterranean region were based in the root KPR and its linguistic variant PKR.⁵ Dioscorides⁶ referred to the plant as kuvproç, mentioning that the best henna was from Canopus, in the Nile Delta and Ascalon in Judea. His understanding of it was not very different that that of today; he noted that when henna was mixed with old wine (a mildly acidic liquid) it could stain hair auburn, and that adding cardamom and cinnamon made for a more pleasant smell. He also described henna being mixed with pounded quince as a hair dye: another example of henna and mildly acidic mix.

Theophrastus referred to the plant as Kupros. The Hebrew “Song of Songs” referred to henna as Kopher. Kwpr (or kwpr) was a term for henna in Demotic Egypt. Kuperos pukher, phoenikos, from Phoenicia, Crete and the Syrian coast, are linguistically related.⁷ These were culturally distinct civilizations, but they were trading partners and there was cultural transmission among them. The word used for lawsonia inermis in Talmudic study is kopher and in Latin was cypros; the word for henna that passed into English in the King James Version of the Bible is Camphire.

Henna flowers were found in ancient Egyptian burial wreathes, such as in the tomb of Cheikh-Abd-el-Qurna 36, Thebes, opened in 1884 by G. Maspero and estimated to be in the twentieth-sixteenth Dynasties, 1000-500 BCE. In the Roman era Egyptian Harkness Papyrus, 61 CE, col. I, 12-20, a father promises his dead daughter, Tanaweruow, that she shall have henna in her afterlife, among the other pleasures of love, life, and fertility.⁸

Papyrus Harkness (61 apr. J.-C.), col. I, 12–20. Dans un texte destiné à être prononcé pendant les rites funéraires, un père s’adresse à sa fille défunte dénommée Tanaweruow: «Ton henné (kwpr), fais-le boire. Ta laine parfumée, expose-la au vent. Expose la rose au vent du nord. (. . .) Tu devrais élever la rose. Tu devrais cueillir les fleurs. Tu devrais en remplir ta tombe. (. . .) Munistoi d’une vache venant de mettre bas, sa progéniture sous ses pattes. [Une vi]gne [poussera] su[r la to]mbe de ce petit. Un buisson de henné (b·t kwpr) poussera là où s’effectuera ta traversée. Un surgeon d’ébène poussera (. . .). Si tu désires boire, la vigne mûrira. Si tu désires du parfum, le buisson de henné [. . . Si tu dés]ires dormir [. . .], le surgeon d’ébène se déploiera. Si tu desires le son d’une complainte, la vache parlera et le veau poussera un cri.31»⁹

The Semitic root HNA spread widely through cultural transmission of Muslim religion and practice, as henna was part of culturally Muslim cleansing, bridal and Eids practices. The Arabic word ‘henna’ gradually eclipsed the earlier KPR/PKR words in the areas where it had been the dominant word for lawsonia inermis, such as Greek word ‘κίνα’, (pronounced kina), the

⁵ Bubenik, Vit. 1974. “Evidence for Alašija in Linear B Texts”. *Phoenix* 28 (2). Classical Association of Canada: 245–50. doi:10.2307/1087422.

⁶ Pedanius Dioscorides (Ancient Greek: Πεδάνιος Διοσκοριδής; c. 40 – 90 AD), or Pedanii Dioscuridis, was a physician, pharmacologist and botanist, and the the author of *De Materia Medica*, a five volume encyclopedia about herbal medicine. https://en.wikipedia.org/wiki/Pedanius_Dioscorides

⁷ Luc Renaut, 2009. “Recherches sur le henné antique.” *Journal of Near Eastern Studies*, Vol. 68, No. 3 (pp. 193-212). University of Chicago Press

⁸ Ibid p. 198

⁹ Ibid p. 198

Hebrew word ‘henna’ replaced the Talmudic kopher, and the Italian ‘alcanna’ replaced the Latin word ‘cypros’.

The Gujarati ‘mehandi’ may be linguistically linked to the Arabic root, ‘henna,’ transmitted through the long history of a trading partnership across the Arabian ocean with the Arabian Peninsula, as well as the Mughal cultural influence of henna traditions that came in from Persia. Similarly the variants of ‘mehndi’ used in India for lawsonia inermis may be linked, but less closely than the Gujarati word.

There are other words for lawsonia inermis in the many languages of India which do not seem linked in any way to the Arabic word, ‘henna’, suggesting independent origins of henna. Further to the east, there are other words for ‘lawsonia inermis, though ‘henna’ has settled into areas of Muslim cultural contact and trade in Indonesia and Malaysia. In West Africa, too, there are other words for lawsonia inermis in the indigenous languages, again suggesting independent origins for henna cultural use prior to Muslim influence.

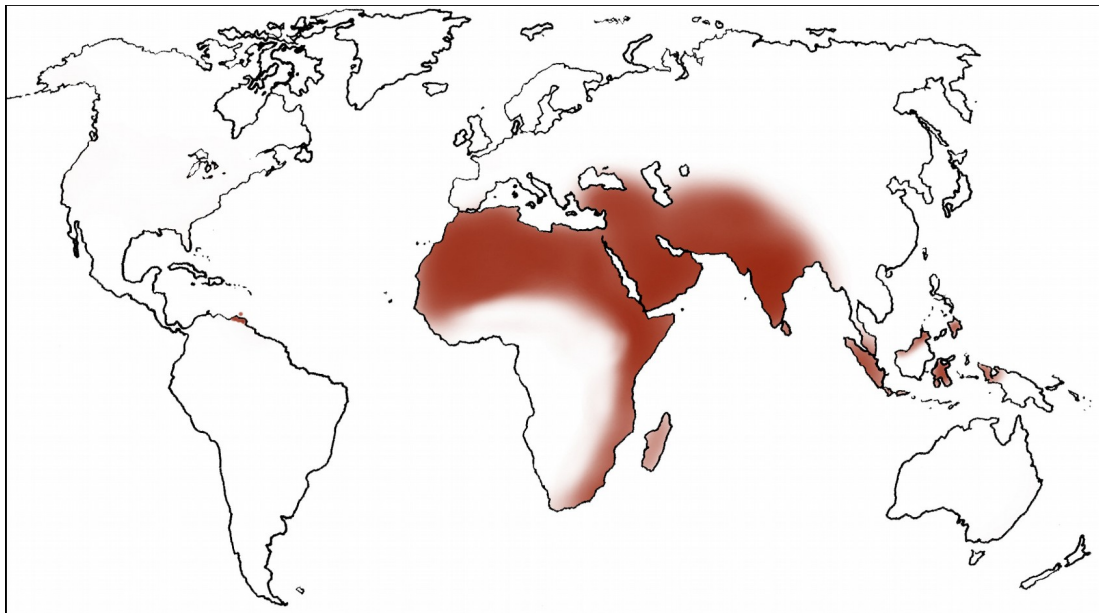
European countries adopted the word ‘henna’ from trade, exploration, and colonial occupation of henna-using countries in North Africa, the Levant, Persia, and the Arabian Peninsula. These variants include ‘kına’ (Turkish), ‘xına’ (Azerbaijani), ‘kana’ (Bosnian), henné (French), and ‘al-khanna’ (Italian).

The Cultural and Social History of Henna



Henna, *lawsonia inermis*, with new growth after rain breaks a hot summer drought: the newly grown leaves have vivid red from lawsone, the dye molecule in henna. This red is masked by chlorophyll in mature leaves.

Humans have used plants to create dyes, paints, stains, and pigments for hundreds of thousands of years. Neanderthals used cosmetic paints to ornament their bodies. There is evidence of cosmetic preparation from 400,000 BCE in Zambia. We don't know when hominids began to mask the appearance of aging by dyeing their hair with henna, but henna appears to have been used as hair dye and for skin and hair wellness by the end of the Neolithic period in the Eastern Mediterranean and Egypt. Henna grows most easily in tropical semi-arid zones and will endure long periods of drought and temperatures over 100F. Henna leaves will be damaged and the plant will become dormant when the temperature falls below 40F; frost damages henna, and a prolonged freeze will kill the plant. Since the henna plant can live fifty years, the areas where it grows must have reliably warm weather year-round.

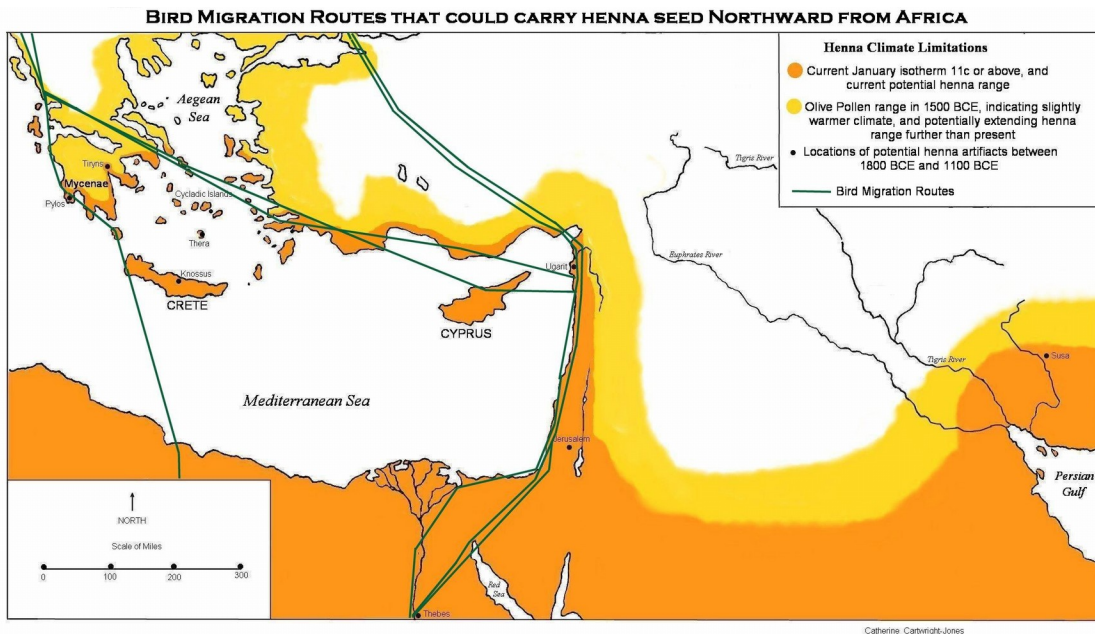


Regions of traditional henna use, 1850 CE

Henna was a cultural tradition in the brown areas of the map above at the middle of the nineteenth century. The area of cultural use extended into Spain and Sicily during the Medieval Warm period through the expansion of Muslim culture northwards, but these areas of cultural influence receded as the climate cooled in the fifteenth century and Muslim culture retracted into Northern Africa. During the colonial period, henna use expanded through commerce as hair dye. As global commerce, migration, and globalization increased toward the 21st century, the use of henna spread. The use of henna in the regions marked in brown on the above map was established and maintained for many centuries, though the archeological record in many of these areas is unevenly researched. There is reliable evidence of early henna use in some of this area, but none in others. It is probable that henna was used in any area wherever and whenever it grew

naturally. Intensive archaeological research in the eastern Mediterranean and Egypt has uncovered Bronze Age use of henna, but this does not exclude early use of henna in other areas.

There is no reason to exclude archeologically understudied areas from potential Bronze Age or even Neolithic henna use, but without confirmation the early use of henna is moot. It is probable that henna was ‘discovered’ in many times and places, and was ‘planted’ by birds migrating along their flyways. Areas of Bronze Age artifacts indicating use of henna are consistent with routes of the Black Sea-Mediterranean Flyway out of Africa. Wadis, springs, ponds, and rivers would have been reseeded annually by birds, and the henna plants would have grown, or not, according to the advancement and recession of the seasonal frost line.



Extension of henna-growing region out of Africa through activities of migratory birds

The understanding of henna followed the expanding region of growth: browsing animals eat henna leaves, and their mouths become stained with the red-orange dye molecule in henna leaves, *Lawsonia*. The highest concentration of lawsone is in the petiole of just-budded leaves.¹⁰ Any person herding goats or cattle would have noticed the red on their animal’s mouth if it had chewed henna. If the herder had become concerned at the appearance of a bloody color, and put their fingers into the animal’s mouth to check for injury, their fingers would have been stained red. Thus, the ‘discovery’ of henna dye would probably have occurred many times. If the animal had drooled while chewing henna, the herder would have noticed that the red-orange color stains hair and skin.¹¹ Recognition of less obvious characteristics of henna such as cure for ringworm, head lice, and fungal infections would have come subsequently. Henna in Ancient Egypt

¹⁰ The petiole is the center rib of a leaf. In Romaine lettuce, this is the crunchy center part of the leaf.

Egyptians used henna to mask gray hair during the pre-dynastic period to dye graying hair in Hierakonpolis, Egypt,¹² 3650-3500BC.¹³ Ahmose-Hentimhehu's (c. 1574 BCE) hair was dyed with henna at the time of her death in the 18th dynasty; this elderly woman's mummy has vivid red hair.¹⁴ Ramses II's mummy had hennaed hair, covering his natural color that had become completely white by the time of his death in 1213 BCE, at about the age of 90. Henna grew easily in Egypt, and was appreciated for its fragrant flowers, its leaves for dyeing hair, and for its potential therapeutic properties. The wall paintings and funerary portraits of Egyptians portray a stylized human form, with heavy black, braided hair wigs, but the mummies show a genetically diverse population with brunette, dark brunette, black, and occasionally light colored hair, all of whom inevitably began graying by middle age. The mummies whose hair was hennaed at or before death do not have a counterpart in wall paintings. Hennaing hair to cover gray may have been for private, informal circumstances, a wig being worn formally, or hennaing hair may have occurred only in preparation of the body after death.

If it may be argued that the Egyptian civilization's predecessor was a population which migrated north and eastward from the Sahara as it became an arid zone, one may propose that the understanding of henna developed during the prehistoric period in North Africa and migrated outwards with the populations. The mentions of henna in the Ebers Papyrus are intriguing in that they show careful observation of the differences in the henna plant according to where it is

¹¹ This is the Catherine Cartwright-Jones PhD henna discovery hypothesis, "A cow discovered it." Cows (*bos africanus*) were domesticated during the 'Green Sahara' period in North Africa, and herders moving their cows through the landscape may have had occasion to worry about a cow with a henna-stained mouth. This continues today when cows get into the henna bushes and look like they're wearing lipstick. In other areas, a goat might have discovered henna.

¹² Friedman, Renee F., Renée F. Friedman, Amy Maish, Ahmed G. Fahmy, John C. Darnell, and Edward D. Johnson. 1999. "Preliminary Report on Field Work at Hierakonpolis: 1996-1998". *Journal of the American Research Center in Egypt* 36. American Research Center in Egypt: 1-35. doi:10.2307/40000200

¹³ Fletcher, J. 2002. "Ancient Egyptian hair and wigs." *The Ostrakon, the Journal of the Egyptian Study Society*. Volume 13, Number 2

"In 1998 the plundered burial of a middle-aged woman from the predynastic workers' cemetery at Hierakonpolis proved particularly revealing after numerous scattered fragments of skull and hair were reconstructed to allow us to recreate her original hairstyle. This was clearly the result of many hours' work undertaken by someone other than the lady in question, her natural hair of slightly more than shoulder-length having been turned into an imposing crest-like coiffure using numerous hair extensions, providing the earliest evidence of false hair yet found in Egypt.

The find was even more significant when we discovered that the woman's graying brown hair had been dyed either shortly before death or as a post-mortem treatment, the dye turning the brown parts auburn while transforming the unpigmented white hairs bright orange. Those familiar with the vegetable dye henna (*Lawsonia inermis*) will recognize its characteristic effect, and indeed henna shrubs still grow at the site and continue to be used for the same purpose by the local population. They kindly showed us where the best leaves were to be found and, allowing us to help ourselves, they demonstrated the heavy stone they use to grind them to a fine powder which is mixed with water to color the hair, skin and nails. Inspired, we decided to undertake comparative tests using modern hair samples kindly supplied by members of our team, and our tests duplicated exactly the effects observed in these ancient samples."

¹⁴ "Asru, An Ancient Egyptian Temple Chantress: Modern Spectrometric Studies As Part of the Manchester Egyptian Mummy Research Project" Volume 117 of the series NATO ASI Series pp 153-162

grown, and the plant part, and the resulting different effects. They also had observed that henna can reduce inflammation and fungal diseases, and can strengthen skin. They recognized that aromatic plants, oils and resins make a useful difference in henna pastes. The Egyptians did not seem to be using henna for body art in 1550 BCE as did their adversaries and neighbors, the Libyans, Tunisians, Canaanites and Syrians, but they did make sophisticated use of its therapeutic properties and as a hair dye.



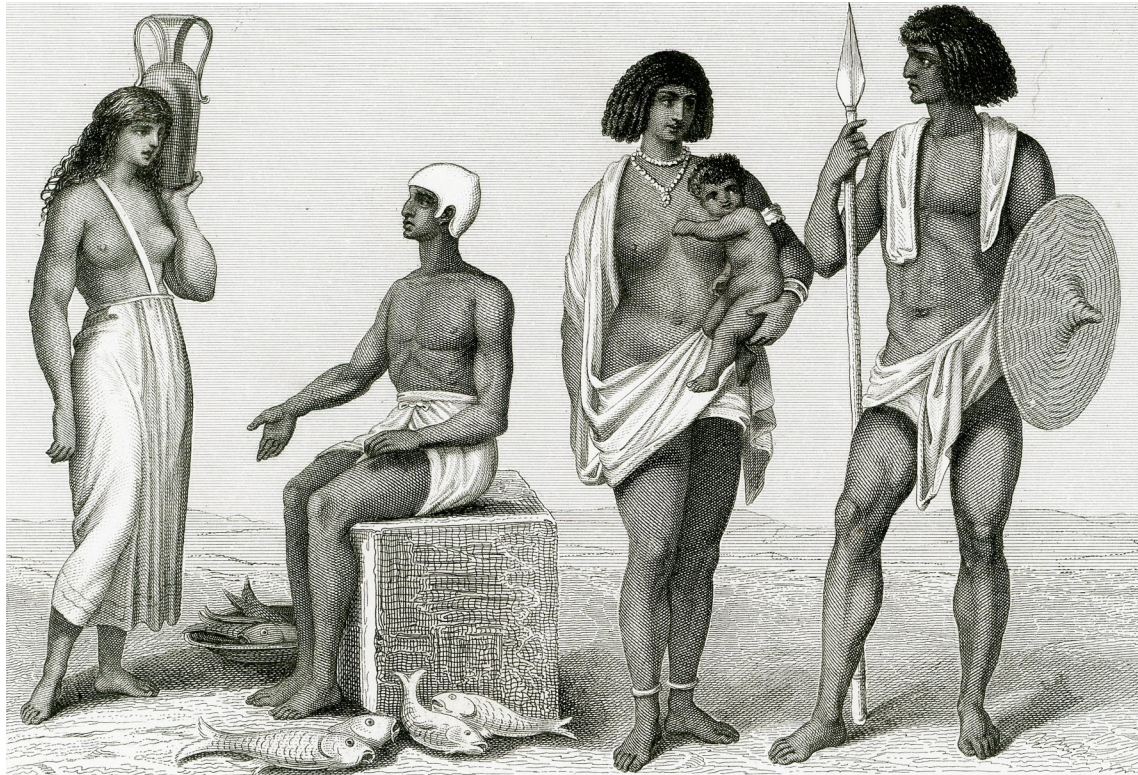
Henna leaves with lawsone showing in petiole of the young leaf

Henna in the Ebers Papyrus

The Ebers Papyrus was written around 1550 BCE in Thebes, Egypt. It is a compendium of nearly nine hundred remedies, pharmacopoeia and doctors' medicinal formulae gathered and catalogued at that time. It contains notes from at least forty different sources. The papyrus describes diseases and injuries, their symptoms, diagnosis, treatments, prescriptions, and the preparation and administration of the remedies. Prayers and incantations frequently accompany the prescriptions.

Henna is one of the 400 plants, minerals, and animal parts, used to create remedies in the Ebers Papyrus pharmacopoeia. In Egypt in 1500 BCE, henna was called Kupros, or Cyperus, depending on the author transliterating the consonant group KPR, the ancient Egyptian word for henna. The pharmacopoeia specifies seven forms of henna based on where it was harvested, the age of the plant, and the plant part.

“Henna from the north”, “henna from the fields”, “henna from the meadow”, and “henna from the marshes”, specify henna harvested from locations with different soil and moisture levels. Soil and moisture affect henna’s Lawsone levels. Moist, fertile, cool conditions produce low Lawsone levels. Dry, hot, iron-bearing soils produce high Lawsone levels. “Knots of henna”, “thorns of henna” and “henna grass” are parts of the plant specific to age and growth cycle, which again have different characteristics.



Detail from “Culturgeschichte” Druck und Verlag von F. A. Brockhaus in Leipzig Aegyptische Volkstrachen and Heutige Numidier: People from Lower and Upper Egypt

“Henna from the north” may either indicate henna from a northern arid desert area, which would have higher Lawsone level, or it might indicate henna from the marshy Nile Delta, which would have a lower Lawsone level. “North” could also indicate henna from a coastal area. Henna will tolerate salinized sandy soil, and grows close to the shores of the southeastern Mediterranean. That henna would not have high Lawsone levels, because coastlines don’t get as hot as the interior. Therefore, the characteristics of “henna from the north” are moot.

“Henna from the fields” may have been henna at the edge of cultivated areas, where it is often grown as a hedgerow or windbreak. That henna would have received regular irrigation along with the field, so that henna might have not had as high a Lawsone content as henna from unirrigated soil.

“Henna from the meadow” may have been plants growing in grazing areas. Meadows would not have been regularly irrigated, so henna from meadows would have had higher Lawsone content than that from fields. “Henna from the marshes” would have had abundant water, and relatively low Lawsone levels.



Detail from “Culturgeschichte” Druck und Verlag von F. A. Brockhaus in Leipzig
Aethiopische Konigen, Priesterin, Hofbeamter, Aegyptischer Pharao, Fächerträger.

“Knots of henna”, “thorns of henna” and “henna grass” refer to parts of the henna plant rather than their harvest location. “Knots of henna” might be the seed-filled berries or seedpods. Henna seeds were pressed for their oil, which was used as a liniment. “Thorns of henna” refers to the thorns that begin to grow when the plant is 3 years old, from which henna gets its name “*Lawsonia Inermis*” or “armed” (as in having a weapon). “Henna grass” is the young shoots of the henna plant as they grow from seed. In specifying different sorts of henna, the physicians understood that hennas from different microclimates had different Lawsone levels, and different parts of the plants had different properties.

The uses of henna in the Ebers Papyrus are consistent with what we know of the henna now. Henna has differing levels of Lawsone during different growth periods of its life cycle, and in different soils and available moisture. Dry, hot, iron-bearing soils produce henna with high Lawsone levels. Moist, fertile soils produce henna with lower Lawsone levels. The tannins in henna bind with keratin in the skin, making the skin stronger and resistant to desiccation¹⁵.

¹⁵ Stankiewicz A., Hutchins J., Thomson R., Briggs D., Evershed R., 1997

Lawsone is mildly anti-inflammatory¹⁶ and is effective against ringworm and other fungal skin diseases.¹⁷ In the Ebers Papyrus, henna is used for skin diseases, as opposed to respiratory, heart or circulatory diseases, so the ancient Egyptian use of henna seems to be based on observation and experience and is largely knowledgeable and appropriate.

One remedy for “scabs in every limb” features henna. “Scabs in every limb” could be ringworm, or another fungal skin disease, or it could be some other source of open lesions. In any case, this indicates broken skin. Henna will stain broken skin permanently. The remedy for “scabs in every limb” is “Henna from the marshes, henna from the fields, henna knots and red grain, crushed in oil, goose oil and semen.” Except for the addition of semen and red grain, this seems to be a straightforward henna paste, but one that would have minimal stain. Henna from the marshes would not have been dark-staining henna because abundant moisture does not favor high Lawsone content. If “henna from the fields” were from irrigated fields, it also would not have been dark-staining henna. Oil mixed into henna paste (goose oil and henna seed oil) would also have inhibited the stain. This seems to indicate the paste was made to be applied frequently to reinforce anti-fungal anti-inflammatory effects and, with minimal skin staining. If body art quality henna paste was applied to broken skin, the basal layer of the skin would be permanently stained. This may be a well thought out, carefully observed, and effective treatment for ringworm or other conditions with broken skin, making use of henna’s anti-fungal properties, while minimizing skin staining.

Another treatment “to allay itching from all limbs” was a paste of “henna from the meadow, onion meal, incense, and wild date juice”. The instructions were “make into one and apply to the scurvy place”, implying that the practitioner would make and apply this henna paste topically. Henna from the meadow could have had higher Lawsone content than henna from the fields because fields were irrigated and meadows were not: high Lawsone content favors low moisture. Wild date juice was the sour/sugar ingredient common to most henna pastes. Henna has been used to treat psoriasis and eczema,¹⁸ which could have been the source of the “itching from all limbs.” If the skin was itching but not broken, as the “scabs in every limb” then higher quality henna from the meadows could be used with less concern over permanent skin staining. The writer of the Ebers Papyrus commented on this remedy, “Look to it because this is the true remedy. It was found among the proven remedies in the temple of the God Osiris. It is a remedy, which drives away the scurf in every limb of a person. Yes, it heals at once. You see.” Osiris’s recommendation was a guarantee of quality and reliability.

‘Diseased toes’ was a common complaint in Ancient Egypt, with several remedies proposed depending on the severity of the condition. ‘Diseased toes’ could have been a fungal or bacterial infection from working in muddy irrigated fields, or problems from conditions such as cracked and infected calluses. Minor fungal and bacterial infections of the feet would have been easily

“Assessment of Bog-Body Tissue Preservation by Pyrolysis-Gas Chromatography/Mass Spectrometry”
Rapid Communications in Mass Spectrometry, Vol. II, 1884 – 1890

¹⁶ S. Yogisha, D.S. Samiulla, D. Prashanth*, R. Padmaja, A. Amit, 2002. “Trypsin inhibitory activity of *Lawsonia inermis*.” *Fitoterapia* 73 (2002) 690–69”

¹⁷ Bosoglu A., Birdane F., and Solmaz H., 1998. The Effect of Henna (*Folium Lawsonia*) Paste in Ringworm in Calves.” *Indian Veterinary Journal* 75, January

¹⁸ Aburjai and Natsheh, 2003. “Plants used in Cosmetics.” *Phytotherapy Research* 17, 987 – 1000

treated with a henna paste spread on skin. If ‘diseased toes’ referred to what is presently diagnosed as Athlete’s Foot, tinea pedis, henna leaves dried, crushed, and made into a mildly acidic mix would eliminate the fungal infection.¹⁹

A more complicated formula is proposed for a more serious condition of ‘diseased toes’: the physician made a poultice of fennel, wax, incense, henna, wormwood, dried myrrh, poppy plantings and cuttings (raw opiate), elderberries, berries of the uan tree, resin of acanthus, dough of acanthus, resin of mafet tree, grain (small pieces of wood) of aloes (aloes wood), fat (resin) of the cedar tree, fat (resin) of the uan tree, fresh olive oil, and water from the ‘rain of the heavens’. This would have created a mildly acidic (rain being mildly acidic) antibacterial and antifungal henna paste. A more acidic paste might have been painful on open wounds. The paste had olive oil that would have soothed dry skin, and an opiate for pain relief. If ‘diseased toes’ refers to what is presently diagnosed as the progressive problems of diabetes and diabetic neuropathy in a person’s feet, this complex henna based paste in the Eber’s Papyrus would have been useful in relief of foot ulcers, pain, drying skin and nerve damage to feet from diabetes.²⁰ 10% of the present-day adult population of Egypt is diabetic. We can’t assume that there was a similarly high incidence of diabetes in Ancient Egypt, but diabetes did exist in the population.²¹

Ancient Egyptian use of henna is evidenced through medical texts, paintings and sculpture, and through hennaed hair remaining on mummified bodies. Paintings and sculptures of living people do not appear to have any clear evidence of henna being used as skin decoration or hair through the Old and Middle Kingdoms. Mummified hair has evidence of henna. Some mummies’ fingernails are darkened with an appearance consistent with henna, but this darkening may be from other burial preservation materials. There may have been some decorative henna use in the New Kingdom through cultural exchange with other people in the eastern Mediterranean where there is clear evidence that henna was used as women’s adornment.

¹⁹ Rahmoun N1, Boucherit-Otmani Z, Boucherit K, Benabdallah M, Choukchou-Braham N. (2013) “Antifungal activity of the Algerian Lawsonia inermis (henna).” *Pharmaceutical Biology*. Jan;51(1):131-5.

²⁰ Mutluoğlu M, Uzun G., (2009) Can henna prevent ulceration in diabetic feet at high risk? *Experimental Diabetes Research*. 2009:107496.

²¹ Weaver, L.J., Venkatnarayan, K. M. (2008) “Reconsidering the history of type 2 diabetes in India: Emerging or re-emerging disease” *The National Medical Journal of India*. Vol. 21, No. 6,

An ailment suspected to be diabetes was recognized by the Egyptians in manuscripts dating to 1550 BCE. They tested for diabetes—which they called “sweet urine disease”—by determining if ants were attracted to a person’s urine.

Ancient Sunrise® Henna for Hair Chapter 2,

Part 1: The Evolution and Migration of Henna into Cultural Practices

Section 1: The History of Henna Hair Dye in Pre-History and Ancient Egypt

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