

Assorted Cosmetics used in the Early Islamic-Ruled World

Categories: “Animal Arts,” “Agriculture” and “Chemistry, Alchemy, and Potions”

Specifically relating to: Beet Root Powder, Cochineal, Kermes Lice, Lanolin



Kermes Lice with impurities

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As in many other cultures within the time period discussed, the Islamic ruled world was largely male dominated. In patriarchal societies there was often fear of women's sexuality and with this often came a pressure to control women. Within Islamic ruled societies this often presented as specific restrictions on women could change and alter their appearance (Hirsch, *Cosmetics and gender: perfumes in medieval legal muslim sources*, 2013). Similar to those used today, cosmetic products that were available in in this time period include; skin-care creams, body lotion, powders, fragrances, eye makeup, hair color, and lipstick (Kaadon & Khatib, 2015-2016). Easily accessible and natural materials were often used to develop cosmetics. Plants were most often used, and extensive research was done in different parts of the world determining which plants could be used to accomplish specific tasks (Gonzales-Minero & Bravo-Diaz, 2018). Historians and cultural anthropologists have noted that women within more urban areas would have been steeped in beauty standards – and thus would have been quite aware of their appearance (Lugatism, 2023). Cosmetic use was so prevalent that religious texts specifically forbade women from wearing them for a period of time after the death of their partner (Hirsch, *The Discourse of Attire and Adornment of the Dead and their Mourners in Muslim Medieval Legal Texts*, 2012).

This documentation outlines how lip cosmetics, foundation and kohl eye pigments were made.

Methods:

o How were these products made for this project:

▪ Lip cosmetics:

- Step 1: Bring a pot of water to a boil and place double boiler
- Step 2: Measure $\frac{1}{4}$ cup of lanolin and $\frac{3}{4}$ cup of olive oil (or grapeseed oil)
- Step 3: Put oil into double boiler
- Step 4: Measure scented oils or extracts and mix with oil on the double boiler

o For this project the following oils and extracts were used in different products:

- Lemon extract (2 tablespoons)
- Peppermint extract (2 tablespoon)

- Rose Water (2 tablespoon)
 - Clove oil (1 tablespoon)
- Step 5: Measure $\frac{1}{4}$ cup of beeswax and mix with oil in the double boiler
- Step 6: Mix oils, scents, and wax together until blended
- Step 7: Add pigments until desired color is achieved and mix well
- Step 8: Measure product into containers
- **Foundation:**
 - Step 1: Bring a pot of water to a boil and place double boiler
 - Step 2: Measure $\frac{1}{2}$ cup of lanolin and $\frac{1}{2}$ cup of olive oil
 - Step 3: Put oil into double boiler
 - Step 4: Once oil is melted put into a larger boiler and combine with $\frac{1}{2}$ cup of rose water.
 - Step 5: Mix aggressively. I initially used a whisk, though the rose water and oils were continuing to separate.
 - Step 6: Add pigments – in this case I added a tablespoon of titanium dioxide powder and half a teaspoon of beet root powder.
 - Step 7: Continue mixing. Eventually give up using whisk and use an electric blender to incorporate ingredients.
- **Kohl**
 - Step 1: Obtain a small metal bowl and a metal cover.
 - Step 2: Cut a piece of organic natural material (linen or cotton).
 - Step 3: Saturate fabric in ghee, and add a liberal amount of ghee to the small metal bowl.
 - Step 4: Put ghee and fabric into the small metal bowl and set fire to an end of the fabric.
 - Step 5: Cover fire with a small metal plate. If the plate suffocates the fire, find a way to raise it a small amount above the fire. In this case I used two glass shot glasses to suspend the metal plate above it.
 - Step 6: Let fire burn out naturally – do this outside as the process will make your entire house smokey.
 - Step 7: Once metal cools down use a wooden tool to scrape the powdered coal off of the metal onto a piece of paper.
 - Step 8: Put a crease into the paper and use this as a funnel to pour the kohl into your bottle.
- **Production of Pigments:**
 - **Kermes:**
 - Place dried bugs into mortar

- o Grind, place ground bugs onto a high contrast surface to remove legs, antennae, and place back into the mortar.
- o Grind again, then again screen for any remaining legs, antennae, etc... and grind again.
- o Remove any larger pieces of carapace that did not grind
- o Place ground product into a separate container for later use
- o *Comments:* I hated working with this product. The dried bugs were quite expensive for a small amount. They did not grind well after literally an hour of grinding them. Even after attempting to grind them into a fine powder several pieces would not grind and had to be removed.
- o *What I would do differently:* Aside from not trying this product at all, I would also purchase a muller and attempt to mull them to make a finer ground pigment. Even with that, I'm not sure that this product would have been used in cosmetics in this way.
- o *My assumption on how this would have been more likely used if it was used at all in cosmetics:* This pigment was prized for providing a brilliant crimson hue when used to dye fabrics. My suspicion would be to take the dried remnants (including the remaining alum used as a mordant) from dyeing and grind them. This would have been both cost effective and more efficient.

- **Cochineal:**

- o Place dried bugs into mortar
- o Grind
- o Place ground product into separate container for later use.
- o *Comments:* This product was a tenth of the cost of the Kermes and it was significantly easier to work with. It absolutely makes sense that this product quickly became popular to import and use in a variety of products.
- o *What I would do differently:* Buy it in powdered form to begin with.

- o **How were these products made in period:**

- Lip Cosmetics:

- While I could not find any particular product journals that detailed the exact process someone would have followed in period, there were exemplar recipes.
- Al-Zahrawi's recipe included a process where suet was mixed with wine, then cooked in water and strained – this was repeated several times before some of the smell was removed and added perfumes were added.
- Other recipes mention the use of a fat and beeswax (Stewart, 2017).
- Double boilers have long been used for both cooking and scientific uses. The earliest documented use of a type of double boiler was by Maria Prophetissa, a 3rd century chemist/chemist who created a device that would limit the temperature one container would heat to, to the boiling point of liquid contained in container that the first rests on (Scientific Women, 2023).
- Foundation:
 - Several recipes from both Al-Zahrawi and Trotula were found for masking “pale yellow” complexion (Kaadan & Khatib, 2015-2016).
 - Early foundations, rather than being made solely of water or creams, they were often comprised of animal based fats/greases and thus would have led to a more modern “dewy look” – additionally the addition of certain products like lanolin would have further softened the skin (Cavallo, Proto, Patrino, Del Sorbo, & Bifulco, 2008).
 - Rather than using non-toxic titanium dioxide, wheat flour and lead were often used (Kaadan & Khatib, 2015-2016).
- Kohl:
 - There were a few different modalities listed to make kohl. One of them involved grinding stibnite to a fine powder – the other involved burning an organic material and collecting the product made from the smoke onto a metal surface.
- **Differences between how these were made in period and how I made them:**
 - *Why not use Al-Zahrawi's recipes* - While I'm not distressed by the use of animal products, I was unsure about using suet's shelf life. After doing quite a bit of research the range I was seeing was “days at room temperature” to “a year if stored right.” I was not willing to risk health and safety to use suet. Rather than using suet I chose to use lanolin. From brief research the shelf life of lanolin even in warmer temperatures can be used for up to two years. Between

these I chose to use a less labor-intensive product that has a longer shelf-life.

- When looking at vague recipes referenced – some mentioned using “beeswax” to keep lips moist and others mentioned , mixing berries with lanolin to produce a lip color. Beeswax as a standalone product would feel unpleasant and not work as an effective treatment to help retain moisture. The proposed lanolin mixture I did use.
- I had planned to just use lanolin rather than a mixture as I know that lanolin has incredibly moisturizing properties. This was immediately rethought once I opened my jar of lanolin. I have a viscerally negative reaction to this smell and throughout the project even using a significantly reduced amount often had migraines.
- For the foundation – the rose water successfully hid the scent of lanolin. And for (hopefully) obvious reasons I chose to not use lead as a pigment and instead opted for a non-toxic titanium dioxide. The colors would have been similar.
- For Kohl – I did not want to use stibnite as it is known to be harmful to the eyes and skin. It can also cause problems with the lungs, heart, and stomach. I enjoy having the use of my organs and senses, and as such prefer to avoid using materials that may harm them.

- **Materials:**

- Lip Cosmetics Ingredients:

- Lanolin, olive oil, beeswax, rose water, lemon extract, peppermint extract, kermes
 - Lanolin, olive oil, beeswax, rose water, lemon extract, peppermint extract, cochineal
 - Lanolin, olive oil, beeswax, rose water, lemon extract, peppermint extract, beet root powder
 - Lanolin, grapeseed oil, clove oil, beeswax
 - Lanolin, grapeseed oil, lemon extract, rose water, beet root powder, powdered rose

- Foundation Ingredients:

- Rose Water, Lanolin, Olive oil, titanium dioxide, and beet root powder

- Kohl Ingredients:

- Small metal bowl (I purchased an offering bowl on Amazon), and a small metal plate (I used a spoon rest I previously owned) to collect the kohl powder. Additionally used a washed linen, soaked in an organic ghee (purchased from Thrive Markets). I also owned the shot glasses.

- o How I procured them: Kermes and Cochineal were purchased in dried bug form from Kremer pigments. All other ingredients were purchased from online sellers after reviewing ingredients lists and reviews. Some products/tools were already owned.
- o How they would have been obtained in period:
 - Beet Root Powder:
 - How were the materials harvested: I purchased my beet root powder already made as they are readily produced to be added to smoothies and cosmetics.
 - How were they harvested in period: Beets were first cultivated and harvested in Ancient Greece, and was often used for it's leaves and medicinal purposes throughout the Mediterranean. To produce beet root powder, the beets would have to be harvest, sliced into thin slices and then dehydrated. Once dehydrated fully they would be ground into a fine powder.
 - Of note: It is unclear what color the beets available in this time period were. It is thought that they may have been more similar to a "candy cane" or Chiogga variety beet grown today. In any event, it likely would produce at least a slight ping pigment that would darken when mixed with oils.
 - Cochineal:
 - How were the materials harvested: I purchased dried cochineal bugs. Once received I took a small amount and ground them into a fine powder with a mortar and pestle. I could have purchased the cochineal already ground, but I wanted to the size differences between bugs and attempt to come up with why one was so popular.
 - How were they harvested in period: Similar to how I procured this product – individuals would have also purchased this pigment as it was imported from Central America. This pigment was imported into Spain and traded throughout the Mediterranean. As soon as it was imported into the area, it became immensely popular and people wanting to use this pigment likely would have purchased it pre-ground.
 - Who would have harvested the materials in period: Archaeologists noted that Cochineal was likely being bred and harvested by the indigenous people in Puebla, Tlaxcala, and Oaxaca (BBC News, 2018).
 - Who harvests these materials today: Cochineal remains popular and is used in a variety of commercially available

products today. With that, a significant portion of the cochineal production today remains in Central America. Many continue to be harvested in a somewhat traditional method where baskets are placed on cacti with female cochineals to reproduce. These bugs are harvested close to the end of their lifespan (which is between 70-90 days) and either killed or moved to another plant to infect that one (Rowe, 2020).

- Kermes Lice:
 - How were the materials harvested: Kermes lice are hard to find. As far as I could find, there was one store that carried them in a dried form, and that was Kremer Pigments. They were absurdly overpriced for 1gram of dried kermes lice. I cannot imagine how expensive this would be in a powdered pigment form; as the ground bugs with legs/antennae removed was incredibly minute.
 - Anatolian Kermes (Vermilio) Lice – Kermes lice continue to be harvest by families by hand. These bugs feed on the Quercus coccifera oak tree. These bugs cannot be bred or controlled, and as such are harvested by hand by small family groups (Arrigoni). Anecdotally people who collect these bugs off of the oak trees grow one long finger nail to remove them from the tree and move them to a basket.
- Lanolin:
 - How were the materials harvested: I purchased refined lanolin from Amazon as I had read about a strong smell. Turns out – I'm incredibly sensitive to the scent anyhow.
 - How was lanolin procured in period: Lanolin was previously thought to be a byproduct of wool production – though a study explored the sharp differences wool production and lanolin production (Mazow, 2014). Lanolin was produced separately from wool for fabric production and was a fairly labor intensive process that involved boiling uncleaned wool and scraping the grease off of the top.
 - How is lanolin produced today: Lanolin is often collected in a more time/labor efficient manor at present using centrifugation and the use of solvents (Lanis Lanolin, n.d.). There are numerous commercially available options for an individual to purchase lanolin, refined or otherwise.
- Research on lip treatments available in the Islamic-Ruled World
 - Recognizing that high contrast facial features were seen as a sign of beauty, another part of facial anatomy that can be highlighted includes the

lips. As such, al-Zahrawi discussed several methods to “redden the lips” in a section that addressed concerns relating to the mouth including; lip care, teeth whitening/health, and methods that can be used to make the voice more pleasing (Da Soller, 2005). Lips were often stained with common red pigments including; iron oxide, red ochre, and other pigments that provided a red tint (beet root powder, and insects included) (Lugatism, 2023). Similar to other types of cosmetics in period lead was also a common ingredient in lip colors as a means of making the color more opaque and increasing the time the lip color would remain on the lips (Wexler, 2015). In general common lipsticks were made using three to four basic ingredients; colorants, waxes, fat, and a fragrance to disguise the scent of most fats (Shivanand, Nilam, & Viral, 2010). Similar to an individual’s skin, lips were also expected to be soft and smooth; and to that end lip scrubs were applied often and lip stains included moisturizing agents which could have included “animals’ fat, animal’s brains, bone marrow, or some plants” (Kaadan & Khatib, 2015-2016).

- Research on face makeup in the early Islamic Ruled World
 - Some of the more common metaphors used to describe beauty included the “face is radiant like the moon” and “skin as white as jasmine or lilies” (Da Soller, 2005). Pale skin absent of scars and blemishes was indicative of both prestige and beauty; specifically as this made it likely that the person had the privilege to not labor in the elements (Ben-Nun, 2016). In addition to a preference for the absence of scars, freckles and acne were also seen as at least temporarily disfiguring and would have been covered using cosmetics (Da Soller, 2005). Several recipes (most including leads of differing types) were used to correct what was seen as discoloration including ways to mask a “pale yellow” face in addition to any aforementioned scars (Kaadan & Khatib, 2015-2016). Of note, though some of these cosmetics may have been worn on a daily basis and to disguise facial features that individuals were born with, they were not prohibited as they were considered “everyday practices” rather than permanent body modifications (Kueny, 2020). Notably during this time there were prevailing prohibitions against forms of permanent alterations to an individual’s appearance unless there was a disfigurement that would also make an individual more prone to disease.
- Research on Eye Makeup in the early Islamic Ruled World
 - Throughout much of the world and throughout time, the eyes have been a focal point and are often emphasized using different cosmetics. In the Islam ruled world bright eyes were highly favored, and to achieve this makeup was used to create enhanced contrast (Lugatism, 2023). Adults and children of all genders would have worn kohl eye makeup as both a means to enhance their beauty but also to address spiritual and health


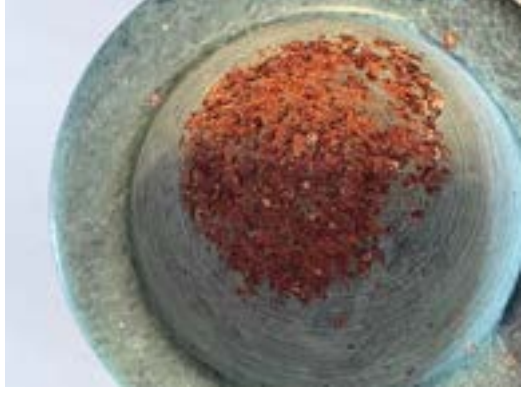

concerns (Da Soller, 2005). Kohl eye makeup is a form of eyeliner in a powdered form that is applied using a stick. Respected surgeon (and cosmetologist) al-Zahrawi listed several recipes for kohl, though most were known to be harmful to those who wore it. One of the recipes that did not include galena or other leads/metals had the maker burning a cypress branch and applying it as a powder (Kaadan & Khatib, 2015-2016). Though modern conventions are quick to label kohl as “hazardous” this has been seen as somewhat controversial as some science has lead people to believe that the small amount of lead used in early kohl recipes provoked an immune response that may have promoted eye health (Science.org, 2010).

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Photo Log:

Lip Cosmetics

	<p>1 gram of Kermes in a stone mortar prior to being ground.</p>
	<p>Kermes after the first pass of grinding.</p>
	<p>Kermes on a contrasting surface</p>



Kermes after an hour of grinding, prior to last pass of removing antennae and legs.



Cochineal prior to being ground



Cochineal after grinding for a few minutes.



Cochineal after grinding for half an hour and removing any obvious impurities.



Melted oil and wax on my stovetop double boiler.

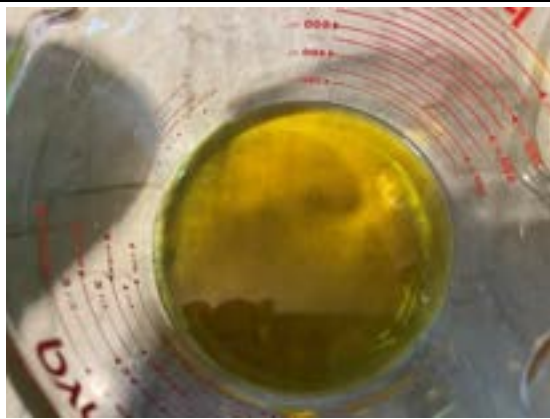


Wax, oil, with added kermes pigment.



Same mixture with cochineal mixed in.

Foundation:



Oil in a bowl I felt comfortable mixing in.



Oils and rose water mixed with pigments after using a whisk and checking consistency on the beaters of my mixer.



Oils, rose water, and pigments after mixing for several minutes.

Kohl



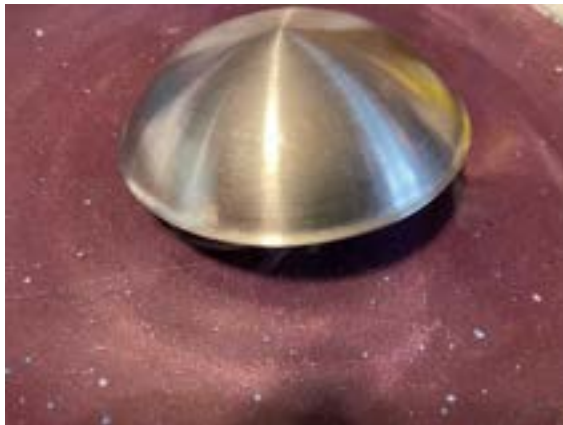
Washed linen cut into a generous strip.



Linen coated with ghee, with some extra ghee added into the bowl.



After realizing that this container would get hot, decided to move it from my counter to a plate so I could move it without burning my hand.



First attempt at covering the flame – this was too close to the fire and smothered it.



My slightly less than elegant way to raise the plate above the flame without smothering it.



Look at all that beautiful kohl that has yet to be scraped off of the plate.



Kohl bottle that the kohl will go into.