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The newsletter will be emailed to anyone who expresses a wish to recieve it, the publication will be free. Hard copies will be available for the price of postage.

This is the December, 2007, issue of the Mercurius Civicus, a publication from members of the SCA, but not as an official forum of the SCA. **Mercurius Civicus is available from The Editors:**
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Now also available online (Thanks to the Shire of Uma):
http://www.skauma.org/arkiv/dynpage.cgi

Editor's notes:

Purpose: to make a monthly publication of articles to distribute electronically throughout Drachenwald. These articles will include all aspects of the middle ages and of the SCA. Please notice that this IS NOT an official Kingdom newsletter, and does not go through the offices of either the Kingdom Chronicler or the Kingdom Minister of Arts and Sciences.

The reason for existance, and statement of intent of this newsletter is to provide a place to contribute, to share, to participate and to integrate the creativity of the many citizens of this widespread area.

We need your articles, so please send them in to us. /Agmund

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Inauthentic Produce

by Mistress Aramanthra the Vicious

Good Gentles, I hope this chart of non-European foodplants will prove useful to both cooks and gardners. The intent of this project is to inform and resolve confusion over the authenticity of certain plants. Most of the research herein was obtained from modern horticultural texts. The use of scientific texts helped to insure the accuracy of information on areas of origin, Latin names and differences of variety and species. Many period sources do not contain descriptions of specific plants, as the reader was expected to be familiar with the item mentioned. Unfortunately, terminology has changed in the intervening centuries or varies in different countries or languages. In addition, historical and other sources were used for cross-referencing.

Lastly, great thanks are owed to Dr. Paul Read, Head of the Horticulture Department of the University of Nebraska (Lincoln, NE) for his invaluable information and assistance.

A note about dates: Where there is more than one date given, it is due to the different dates of introduction into different countries. For example, Avocados were discovered by the Portuguese in the 16th century, and introduced to Spain and Portugal in the 17th century (possibly as early as the 16th C.) but avocados did not appear in French cookbooks until after World War II.

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Common name	**Latin name**	**Country/ continent of origin**	**Introduced to Europe**
Avocado	*Persia Americana*	Tropical America	17-20th C.
Bananas	*Musa acuminata*	Tropical America	17-18th C.
Beans	*Phaselous vulgaris & Phaseolus lunatus*	W. Hemisphere	16-17th C and later

Note: This includes green beans, runner beans, french, kidney, haricots, wax, great northern, pinto, black-eyed peas, lima and butter beans. Almost the only members of the legume family that were cultivated in our period in Europe were lentils, filed peas, chick-peas (garbanzos), and broad beans (fava beans). Pre-16th century mentions of “kidney beans” were probably referring to another variety than the one with which we are familiar.

Black Walnut	*Juglans Nigra*	Northern US & Canada	17th C
Blueberries (both varieties)	*1. Vaccinium augustafolium* *2. Vac. Carymbosum*	1. Arctic N. America to northern US 2. Central N. America	17th C

Note: These are the commonly cultivated varieties. There are also 15 to 20 other varieties of blueberries growing wild in the US and Canada.
(Editors note: They are also common in Sweden, Norway and Finland)

Boysenberries	*Rubis sp.*	Canada & US	20th C.

Note: Boysenberries are a genetic cross introduced by Ralph Boysen in 1923.

Canteloupe	*Cucumis Melo var. cantalupensis*	Africa & S. Asia	17th C
Muskmelon	*Cucumis Melo var. reticulatus*	Africa & S. Asia	17th C

Note: What you are accustomed to buying in the grocery store as a "canteloupe" is actually a muskmelon. Canteloupe has a more appetizing sound than muskmelons, so they are therefore marketed under that name. A canteloupe is not "netted" like a muskmelon and is quite different in appearance. True canteloupe are not grown commercially in the US. However, this is somewhat moot, as neither is authentic.

Carob	*Ceratonia siliqua*	E. Mediterranean & Middle East	N/A

Note: Carob is a special case. It is arguably authentic, but was mainly used as animal feed, in lean times as a grain product, or occasionally as a bean. The use for which it is NOT authentic is as chocolate substitute. There is assuredly no reason for a substitute for something that does not exist!

Cocoa (Chocolate)	*Theoboma cocoa*	Tropical America	17th C
Coconut	*Cocus nucifera*	Tropical Melanesia & S. Asia	17th C.
Coffee	*Coffea Arabica & Coffea liberica*	Tropical Asia & Africa	17th C

Note: Coffee was available in the Middle East in our period, but was not imported to Europe until the 17th C. when it was also imported to the New World for cultivation.

Field Corn	*Zea mays*	W. Hemisphere	16-17th C

Sweet Corn	*Zea mays* *var. rugosa* *var. indentata*	W. Hemisphere	16-17th C

Note: Corn of both types was introduced to some parts of Europe late in our period. It was, however, scarce, exotic, and expensive. To clear up the misunderstanding about earlier references about the earlier references to the word "corn", it is an Old English word meaning grain, derived from the work "korn" meaning kernel or seed (see Oxford English Dictionary). It was (and is) a generic term referring to any type of grain, particularly wheat. Even today in Britain, sweet corn or seed corn (American corn) is referred to as "Indian corn", maize or sweet corn to distinguish it from other types of grain.

Cranberries	*Vaccinum macrocarpon*	Canada, Northern US	17-18th C

Note: This is the cranberry variety commonly cultivated commercially in North America. There are also two smaller varieties native to Europe: Vaccinium vitusdaea is smaller, dryer, and more sour than the American variety. Viburnum opulus (the High-Bush Cranberry) is very sour and bitter with a large, flat stone. Neither of these varieties are cultivated commercially in the US. If you have a verifiably authentic recipe containing cranberries, they will unfortunately be the wrong variety, and a radically different result will be obtained. I have grown and eaten the European varieties, and there is little simularity to the type one purchase at the grocery store in the US.

Grapefruit	*Citrus paradisi*	West Indies	18th C

Note: Grapefruit were unknown to early European citrus growers. They are still not grown commercially in Europe. The first mention of their commercial importations is in the 18th C

Guava	*Psidium guajava*	American tropics	17-18th C

Jerusalem artichoke	Helianthus tuberosus	N. & Central America	18-20th C

Note: These are the "root" artichokes, not the globe artichoke native to the Middle East and Europe.

Kiwi fruit	*Actindia chinensis*	China	19-20th C

Note: NOT native to New Zealand, as you might have thought. The kiwi fruit's original name was "Chinese Gooseberry", but that name is hardly conducive to successful marketing.

Limes	*Citrus aurentifolia*	India & SE Asia	17th C

Red Mulberry	*Morus rubra*	North America	19th C

White Mulberry *Morus alba* China & East Asia 13-14th C

Note: The wild mulberry (also cultivated) growing in most parts of the US is the Red Mulberry, except in some areas where silk cultivation has been attempted. The White Mulberry was introduced to Europe at the beginning of silk cultivation there. The Black Mulberry (Morus nigra) has grown in Europe since ancient times, and has soft, juicy dark red fruit.

Papaya *Carica papaya* Tropical & subtropical America 18-20th C

Peanuts *Archis hypogaea* South America 19th C

Note: Peanuts were used as cheap food for slaves in South America. They were then introduced to Africa, from whence they were imported to North America where they were then cultivated. Peanuts were not imported commercially into Europe until George Washington Carver's innovation and popularization of them in the late 19th C.

Pecans *Carva illinoensis* Southern US & northern Mexico 19th C

Note: Pecans are not imported frequently to Europe even today, and have never been very popular there. Almonds, walnuts and hazelnuts are cheaper and more available.

Peppers *1.Capsicum anuum* 1.Tropical America 17th C

2.Capsicum frutescens 2. All W. Hemispheie

Note: C. anuum is all sweet peppers, cayenne, and chili peppers. C. fndescem is all other hot peppers, There is some evidence, matnly pictorial, that some peppers may have been imported to parts of southem Europé in the 16th C. Howe%'err there are no cookbooks that I am aware of that include recipes calling for capsicum peppers until after that time. Paprika, which is made from a capsicum pepper,, is New World in origin.

Pineapple *Ananas comosus* Tropical America 16-17thC

Note: Pineapples were introduced in some areas of Europe in the late 16th century. Rare and exotic, they were used mainly as decorative plants. There is no documented evidence that I have found of there use as a food produri in Europe until the 17th C.

Plantains *Musa acitminata* Tropical Asia 18-I9th C

Note: This is the tropical plantain which closely resembles (and is closely related to) the banana. Because of the name, it is sometimes confused with the European plantain which is a low-growing, ieafy herb. The ONLY resemblance is the name.

Rutabaga *Bmssica napus* Europe 17thC

Note: A special case; rutabagas were developed by a Swiss botanist, Gaspard Bauhin, in the 17th century. They are a genetic cross between turnips and cabbage and do not occur naturally.

Squash and *Cucurbita maxima* Western hemisphere 16-17th C

Pumpkins *Cucurbita pepo*

Note: C. *maxima*, the winter squashes, and C.*pepo*, which includes pumpkins, zucchirti, and the summer squashes, are all native to the New World. Different varieties were introduced to Europe throughout the 16-17th C, same låter.

The only members of the squash family indigenous to Europe are gourds (some varieties) and marrows, a type of summer squash that rcsembles a giant zucchini. Thus the Italian word zuccke for marrows later became the diminutive to describe "zucchini" by the fruit which they resemble.

Sugar Maple *Acer saccfamtm* N. America 19-20thC

Note: This is the common variant of maple tapped for syrup production. Other varieties used for this purpose include the Black Sugar Maple (*Acer nigrum*), the Red or Swamp Maple (*Acer rubrum*), the Silver or White Maple (*acer saccharinum*), and the Ash-leaved Maple {*Acer negundo*), also known as the Box Eider. These varieties are all native to North America. Maple syrup and maple sugar (where known) are not populär in Europe and have never had much favor there. They are usually not available.

Sunflower *Helianthus anuus* W. Hemisphere 17-18th C

Sweet Potatoes	*Ipomoea batatas*	W. Hemisphere	17thC
Yams	*1. Dioscorea batatas*	Eastem Asia	18thC
	2. D, elephantipis	Southern Africa	

Note: I am induding these two foods together due to the constant confusion between them. Despite what the signs in the supermarkets might say, they are not the same thing, nor even similar. Sweet potetoes are tuberous roots and range in size from 4^12" long with orange or yellow flesh. Yams are TUBERS. When ripe, they are the size of a football or larger and have fibrous beige flesh. It is unlikely that you would see a true yam unless your city has Caribbean or African ethnic märkets.

Tangerines	*Citrus reticulata*	Tropical & sub-tropical America	15th C
Tea	*Camellia sinensis*	East &SE Asia	17th C

Note: This is true tea, not "herbal" teas. True tea was not imported to Europe until the 17th C.

Tomatoes	*Lycopericon esculentum*	Pacific South and Central America	16-17thC

Note: Europeans (mainly in Spain & Portugal) had tomatoes very late in our period, but they were not commonly eaten as they were originally considered poisonous. They were occasionally used for "medicinal" purposes as an aphrodislac, hence the name "love äpple."

Watermelon	*dtrellus lanatus*	S. & tropical Africa	17thC

Note: Watermelons were sometimes available in the Middle East in our period. Watennelons are not eaten in Europe even today, except by African immigrants.

Wild Rice	*Zizmiia aquatica* & *Z. palustris*	Northem US & Canada	19-20th C

Note: Wild rice is the brown-black native American grain that normally grows wild in our northem lakes (and is now subject to commercial cultivation in other areas, notably Califomia). Wild rice, brown rice, and white are three completely different plants. The type of rice available in Eturope and the Middle East during our period was short-grain white rice, sometimes known as pearl rice or sticky rice.

A Final Note

There are many other plants indigenous to the Americas, Polynesia, Africa, Asia, and Australia which are not authentic to our period in Europe, and many plants which have been developed since 1600. No list can be all inclusive, but I have endeavored to list those fruits and vegetables that are most often rnistakenly used in the SCA. Other offenders include, but are not limited to Sassafrass, vanilla (both bean and Mexican bark extracts), wintergreen, macadainia and Brazil nuts, ginseng, iceberg lettuce, and loganberrics.

Dyeing with Plants

By Alenn von Horn

Humans used colors as early as the stone age, to which cave paintings in the southwest of Europe bear testimony. These contain iron oxide earth for yellow-red to brownish-red hues, lime & gypsum for white, and coal for black.. These colors were of great light fastness, but could not resist humidity and mechanical wear. From antique writers we obtained the knowledge that Germanic and Celtic people painted their whole body richly coloured before going into battle. Particularly the Celts are well-known for their biue tattoos. But dyeing with plant and animal parts or extracts was the only possibility of coloring materials durably.

Our ancestors used the plants and trees for colouring, which the nature of their homeland provided them:

Brown: Oak and Birchbark
yellow: birchleafs, broom & reed
red: Tormentil (bloodroot),cleaver- & woodruff root
blue: Woad

The Romans expanded the dye-stuff selection by adding walnut for brown, reseda for yellow and madder for red. With the development of the cities, guilds formed and thus dyeing wool and materials soon became a branch of profession. Dyers were not allowed to build their own guild till the end of the middle ages. They where directly dependent on the guilds of the cloth-merchants and woolweavers, who forced strict regulations on them, in order to prevent a falsifying of the colours, and high fees were demanded from them. Dyeing was done in special colouring houses, which belonged to the clothier. Only a certain quantity of cloth or wool each was allowed to be dyed per day, which was monitored by the guild masters. On offence against the regulations, the cloth could be burned and dyer and clients had to pay high fines. If the poor dyer could not pay - which was the usual - his hand was cut off. Such circumstances naturally caused all kinds of rebellions and revolts, like in the 14th Century in the most important clothier metropolis, Florence. Here, the dyers founded the religious Brotherhood of Onofrio, which was the Patron Saint of all dyers, and united and revolted in 1371. The revolt lasted for 8 years and ended with the establishment of 3 new guilds, one of them being the dyer guild. Yet not all dyers were that lucky. In Germany, the first independent dyer guilds were established in the 16th century.

Generally there were 3 different kinds of dyeing: - the black-dyer or simple dyer, dyed black and all simple colours -the palliator, coloured finer goods in nobler colours - the silk-dyer, only found in places, where silkculture & weaving-mills flourished - they didn't belong to a guild, but were "free" artists

The colour splendour of their dress was an indication of its owner's authority and so it didn't take long before the first dress regulations were arranged. It was Charles the Great, who specified in land goods regulations around 800, that woad and madder had to be cultivated and the Cochenille (Coccus ilicis), which supplied the scarlet red.

But because of his Christian inclination towards simple clothes ne permitted the multicoloured-dressed folk to wear no more 6 ellen (3,60m) of fabric in grey or brown crude linen.

A monk described the clothes of the Carolingian as rather multicoloured . They wore red trousers and blue coats, and multicoloured caps in the eastern style. In the 12th century, after the first crusades, there were also some rich traders , who could afford multicoloured clothes. The aristocracy however, was not pleased.

Some colours were exclusively reserved for the aristocracy, like green, which was an expensive mixed colour. The same applied to Indigo blue, gold yellow and scarlet red. Black was reserved for the low clergy and the master degrees. The Woad blue and the Madder red was the fixed colour for citizens & farmers. Pale yellow was the disgrace colour for Jews & prostitutes. Purple was worn only by the high aristocracy and the high clergy, since it was the most expensive dyestuff. It was obtained from glands of different purple snails, for 1g purple 8000 -10000 snails were needed. The Turks terminated the purple production in Europe as they conquered Constantinople in 1453 and the purple facilities were destroyed. But prohibitions and dress regulations did not stop the people from wearing even more splendid garbs. Thafs how the aristocracy began to wear their coat of arms' colours, and even wore their coat of arms animal embroidered on their clothes. This way, the Mi-Parti fashion was created, which divided the body in two or even four different colour strips. This was copied by the citizens and even the farmers, too. Due to the discovery of the sea route to India and America the selection of colours in Europé changed a lot. Through these new routes, stronger colouring materials came to Europé, like brazilwood, sandalwood, saffron, safflower, litmus and Indigo. In the 16th. century Indigo was partly forbidden as a "harmful devil colour", due to fear of the woad culture in Saxonia and Thuringia. In 1610 the prohibition was disbanded in Hamburg , which entailed the fall of the woad cultures. Madder remained the most important red dyestuff until the 19th century. From then on, the triumphant advance of the tar and chemical colors started.

Normally the spun yam is dyed, and not the finished cloth. One does not obtain an intensive colour by letting wool lie for a long time in the dye-bath, but by over-dyeing it repeatedly with the same colour. The colour result depends on many often imponderable factors, for example the water hardness and the mineral material content. The same colouring herb can result in completely different colour saturation just due to different water hardness. The most important aspect of modern colouring is mordant. It is the chemical bridge between dyestuff and fiber.

In addition, only natural materials like wool & linen can be dyed with natural colours. The materials may not contain artificial fibers, which do not accept the colour, the result would be otherwise stained. Mordant, vinegar and ammonia was used in former times in the form of urine, today we use chrome, iron, tin, tartar and alum, particularly often the last two. It hasn't been proven that mordant was already used in the early Middle Ages, just like we don't know for sure when and which one was used for mordanting in the later Middle Ages.

Manua! for coloimring with vegetable materials

The craft of colouring is already very old, because our stone age ancestors could already manufacture colour. Humans in time noticed that certain plants, roots and all berries left a certain colour behind.
This experience was used ever more consciously and so it became its own craft. The variety of means from flora and fauna give us the possibility to manufacture a large palette of colours. These possibilities have existed since the beginning of chronology and it is still possible today to create colours.
Even in the Middle Ages colours from yellow to orange to red and blue up to grey existed. Colouring with nearly all plants is possible, even without mordant, but the colours turn out rather påle. If you want strong colours you must consider that the plants must oxidize, either with the suitable plants or with urine. It is all the same whichever you choose, it will be smelly in any case. With chemical mordants it goes faster and they obtain the same effect.
In the following I will describe to you dyeing, what you need for it and what you have to consider. I will keep the prescriptions general, because they only differ in the quantity specifications of the plants and mordants. The only dyeing method which strongly deviates from the others is colouring with Indigo. In addition to that you'll find a prescription. I wish you a lot of fun and success with dyeing.

Colouring and what you need for it
impiements:
-fire place
-Dishes for the wool and the colours
-colander, scales, mixer, mörtar, thermometer, funnel, large spoons, pliers, towels, bucket, gloves

I dont know what the favourite tool material you like to use is , thats what you have to decide on your own. You can use wood, plastic or metal, as well.. You need dark glass jars for the mordant. Remember please that mordants are poisonous, store them well away from children.
I dye at home on the stove with an enamel pot: It does not absorb colours well, and is better suitable therefore than a high-grade steel pot. I have special wood spoons for colouring, which I use , as well as a special dish in which I set the colour brew and put the wool in after colouring to rinse and dry.

Dyeing:
1. Material (yarns, materials, raw material) washing and drying
2. Mordant
3. Colour brew preparation
4. Colouring
5. Re-treating
6. Rinsing arod drying

Washing and drying

This work procedure is beautifully simple. Weigh the material in dry condition . The gram data in the colouring table always applies to 100g wool or other material which can be coloured (what I mention in the following text applies to wool), for example 100g wool to 200g birch leaves.

Mordant:
Now it is getting a little more compiex. The mordant is dissolved in hot water, wool is added and cooked for about one hour. The gram data for the mordant are approximate data. Please be careful with proportion, the more ypu take of the mordant, the darker becomes the material. Unfortunately I can't give exact data to you, because each book and recipe says something else . Ferrous sulphate behaves in such a way: if you like it darker take more.if you like it lighter take less of it. You can see it, when you add it to the wool. The mordant can be obtained in pharmacies.

Vegetable mordants:
As replacement for alum is suitable: lycopod and chickweed. For ferrous sulphate take gallapples, sorrel or alder. Cook these plants in a rough (uncoated) aluminium pot. There must be a reaction with aluminium, the metal must be open to attack. Leave this brew untouched for a few days, till it begins to ferment. Then remove the plant components and save the liqiud.. The liquid can be used as a mordant.

Colour Brew

First you cut up the plants; if possible take fresh ones (with dried plants it works however just as well) and soak these over night in water.

On the next day ,you cook the plants in this water for one hour. Remove the plants (do not throw them away yet, ,you can use them later again), you need only the brew. This saves you the work of removing plant pieces from wool later. You can use the brew either directly or let it stand again for one day, whereby the colours become more intensive. After this, the plant pieces can be used for dyeing, if you put them in a colouring bag, and put the colouring bag into the dye bath. I use as colouring bags old socks or tea bags. I fill them with the plant pieces and hang them in the dyeing pot

Colour

Moisten the mordanted wool. Put it into the colour brew and bring to boil. You may not agitate the wool.but only push it under. At best, you lift out and let it fall again (into the pot). If the wool has boiled, then simmer it with small heat for about one hour. Differently mordanted wool can be coloured at the same time, but it needs to be moistened before dyeing, so that it absorbs colour better and more evenly.

Treatment

You can implement this step if you want to change the colour again. If you want to retreat your wool, you should do this right after colouring; the wool should not be rinsed out. The appropriate mordant is added directly to the colour brew . Leave the wool therein for 15-20 minutes. I already turn the stove off or take the pot off the fire.

Rinses and drying

Rinse the wool with soapy water, until run-off is clear. To dry the wool, hang it up. Don't wring out the wool, it may felt. Shampoo can be used as a substitute for soap and if none of this is available, rinse it in clear water , until no more colour comes out. If you have only cold water available, then let the wool cool first. Wool likes no extreme temperature changes and felts fast if exposed to them.

YELLOW DYES

1. Wax Yellow

Yarn 250 gr.
Alum 32 gr.
Fresh bayberry leaves 5 00 gr.
Mordant the material first. Boil the leaves for one hour, drain, add material and boil for one hour.

2. Greenish Yellow

Yarn 2 50 gr.
Alum (mordant) 35 gr.
Fresh wild parsley1 kg.
Boil the parsley for one hour, drain, add the alum, stir well until alum has dissolved. Boil

material in solution from half to one hour.

3.Greenish Yellow

Yarn 2 50 gr.
Alum (mordant) 32 gr.
Fresh alder 5 0 0 gr.

Mordant the material first. Boil the leaves for one hour, drain, add material and boil for a half hour.

4. Strong Greenish Yellow

Yarn 250 gr.
Alum (mordant) 32 gr.
Bayberry leaves 500 gr.

Mordant the material first. Boil the fresh leaves for 2 hrs, drain, add materials and boil from one to two hours, according to darkness of colour desired.

5. Greenish Yellow

Yarn 2 50 gr.
Alum (mordant) 32 gr.
Dry birch leaves 5 00 gr.

Soak the leaves for a day before using. Boil the soaked leaves for one hour and drain. Add the alum to this solution and boil yarn in it from half to one hour. If the yarn is dried without rinsing and then placed in a weak birch ash lye, the colour becomes a reddish yellow.

6 Reddish Yellow

Yarn 2 50 gr.
Alum (mordant) 40 gr.
Dry apple bark 250 gr.

The material is first mordanted in the alum water. Cut the bark into small pieces and soak for a day before using. It is then boiled for two hours and strained. Boil the mordanted yarn in the bark liquid from half to one hour. By using more bark and boiling longer a darker yellow is obtained. This colour fades a little if it is not very dark.

RED DYES

9. DarkRed

Yarn 250 gr.
Cream of tartar 16 gr.
Alum 65 gr. Mordant
Madder 250 gr.

Mordant the yarn for two hours and let it remain in the liquid till cool, then rinse in lukewarm water. The yarn may be allowed to dry after removing from the mordant; then it is rinsed in warm water before it is put in the madder liquid. The madder is put to soak for a day before it is used in enough cold water to make a very thin solution. If there are hard lumps they must be rubbed apart in order to thoroughly soak. When ready to dye, the soaked madder mass is put in clean cold water and when luke-warm the mordanted yarn is added. This is heated slowly to 60 or 70 degrees centigrade or hot enough to burn ones fingers. Stir the yarn constantly and keep the solution at the same temperature as long as the yarn is in it. It must not boil. If the yarn is not stirred it becomes spotted as that part of the madder liquid that heats the quickest gives a stronger colour that the other. The red colouring matter in the madder dissolves without boiling, but with boiling the other ingredients in the madder are also dissolved and these cause the red colour to lose its brightness and change it to brown. When the yarn has been in the madder liquid for the required time it is allowed to remain in the solution until cool. Keep stirring until cool. It is then rinsed and washed in several waters to remove the loose madder. When the yarn is allowed to dry after being mordanted, the red colour becomes a little darker. All dark madder colours are absolutely fast. The lighter ones fade a little as the years go by.

10. Medium Madder Red

Yarn 250 gr.
Cream of tartar 16 gr. }
Alum 40 gr. } Mordant
Madder 175 gr.
Treat the same as No. 9.

11. Light Madder

Yarn 250 gr.
Alum (Mordant) 40 gr.
Madder 125 gr.
Mordant the yarn for one hour and keep it in the warm colour liquid from a half hour to 1 hour.

12. Light Yellowish Red

Red 250 gr.
Alum (Mordant) 40 gr.
Madder 75 gr.
Mordant as in No. 11 but keep the yarn in the colour liquid only for a half hour.

13. Pale Red

Yarn 250 gr.
Alum (Mordant) 32 gr.
Madder 25 gr.
Treat as No. 12.

14. Rose Red

Yarn 250 gr.
Alum (Mordant) 4 0 gr.
Madder 50 gr.

Mordant the yarn as usual; when cool, wrap the wet material in a cloth so it docs not dry out. Allow it to lic in this way from 6 to 8 days. It is then treated with madder as above mentioned. The yarn should be squeezed in a little lukewarm water before putting it in the colour liquid.

15. Terra Cotta

Yarn 250 gr.
Cream of tartar 16 gr. }
Alum 48 gr. } Mordant
Madder 125 gr.
Oak Gall13 gr.

Mordant the yarn as usual. When the madder liquid is lukewarm add the yarn and heat slowly, allow it to boil for a half hour. Remove the yarn and to the liquid add the finely powdered oak galls. The yarn is again placed in the colour liquid and boiled for a half hour, when it is removed and allowed to dry. If more colour is used the yarn will be darker, and if from 3 to 10 gr. of iron vitriol is added it becomes browner.

How to Add Vitriol: When the vitriol is to be added, the yarn is first removed and the vitriol is allowed to melt in the boiling liquid. This is cooled by adding a little cold water. The yarn is now returned and boiled for a few minutes, then it is removed, cooled and rinsed. The lighter madder colour may be had by colouring the mordanted yarn in the cool liquid left in No. 9, 10 or 11. These colours are somewhat more of a yellowish colour than when fresh madder is used. By using stronger or weaker mordants and more or less madder many colours not mentioned in these recipe's may be made. Always remember that a strong mordant is used when a dark colour is required.

16. Cardinal

Yarn	2 5 0	gr.	
Tin	4	gr.	
Nitric Acid	50	gr.	Mordant
Water	150 to 200	gr.	
Cream of tartar	5 0	gr.	
Cochineal	100	gr.	

The cream of tartar and the cochineal are soaked. When the water for the colouring is boiling, add the cochineal and cream of tartar and boil for ten minutes. Keep the liquid well skimmed. After the scum has been removed add the yellowish solution of tin, water and acid and stir well. Put in the dry yarn, turning it quickly around and låter more slowly. Boil from 1 to 1 1/4 hrs., according to darkness of colour desired. Remove, cool and dry.

17. Purple Red

Yarn	250	gr.	
Tin	4	gr.	
Nitric Acid	25	gr.	Mordant
Water	75 to 100	gr.	
Cream of tartar	5 0	gr.	
Cochineal	50	gr.	

Treat the same as No. 16.

I8. Bright Red

Yarn	250	gr.	
Tin	8	gr.	
Nitric Acid	50	gr.	Mordant
Water	150 to 200	gr.	
Cream of tartar	50	gr.	
Cochineal	25	gr.	

When the water for the colouring comes to a boil, put in the cream of tartar and let it dissolve; add the cochineal. Boil for ten minutes, keeping the scum skimmed from the surface of the boiling mixture. Add the yellowish tin solution as in No. 17 and put the dry yarn into the boiling mixture, turning it quickly around and låter a little more slowly. Boil 1 hour.

26. Red from Brazil Wood

Yarn	250	gr.	
Alum	40	gr.	
Cream of tartar	16	gr.	Mordant
Madder	40	gr.	
Brazil wood	40	gr.	
Potash	7	gr.	

Mordant as usual, after which the yarn is placed in the madder solution described in No. 9 and allowed to remain for 1 hour. The brazil wood which has been soaked is placed in a bag and this is boiled in clean water half hour. The bag is now removed and the madder coloured yarn is then boiled in the solution from half to 1 hour Let it lie in the solution till cooled a little. Then it is taken out and the potash, which has been well dissolved, is added to the solution and the yarn is put in again and left for 10 to 15 minutes. Allow the yarn to remain in the solution till cool, and then wash in strong soap suds. This is an inexpensive red blue colour.

37. DarkBlue with Chickweed

Yarn	2 5 0	gr.	
Fresh chickweed	1	pail.	
Alum (Mordant)	32	gr.	
Logwood	50	gr.	

The chickweed is boiled for an hour, and drained. The alum is added to the liquid and well stirred. The wet unmordanted yarn is taken, and added to the liquid and boiled for an hour, and taken out. A small bag filled with the soaked logwood is boiled in the liquid for a half hour. Add the yarn and let it boil for an hour, with the logwood bag.

Allow the yarn to remain in the liquid until cold. If a darker dye is wanted, use more logwood.
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GREEN DYES

The pure green colours are always composed of a yellow and blue dyc stuff. Thcsc are mostly made by first dyeing the material blue, and then boiling it in a yellow dye. To obtain a dark green the blue foundation must be made dark enough the first time. No amount of boiling in the yellow dye will make the material darker. By adding madder or iron sulphate, the green will become darker but it is another tone, grey or brownish.

Certain plants give a green dye without using blue. The yellow dye in these plants will, by addition of an iron or copper salt, become green, but the yarn will have a shade of grey or brown.

Green with Birch Leaves.

For these dyes, fresh and dried leaves may be used. Three kg. fresh leaves make 1 kg. dried leaves.
The recipes are made on the basis if dried leaves. The leaves are soaked the day before and are boiled in water to make the necessary dye liquid and are then strained. The boiling is done so that all dye material in the leaves may be had. After straining, the leaves are rinsed with a little clear water, and this is added to the liquid which is cooled while the yarn is being dyed blue.

The yarn is mordanted with the amount of alum called for in the recipe.

Variations of the birch-leaf dyeing are endless.

38. Dark Blue Green No. 1

Yarn 2 5 0 gr.
Alum (Mordant) 4 0 gr.
Olium (Blue Dye) *5* gr.
Birch leaves 1 kg.
Boil in birch-leaf liquid for 1 hour.

BROWN DYES

Brown is obtaincd by mixing yellow, red and black dyestuffs.

Several brown-stuffs are found complete in certain barks and roots and in a number of lichens. From herbs and leaves, brown is seldom obtained.

To bring out the brown colours, a copper or iron salt must often be added to the yellow or red dyestuff. When these salts, such as iron or copper vitriol, are added, they must be well dissolved and the dye must be cooled before the goods are put back into the liquid.

In all dyes to which iron or copper vitriol is added, the material must not lie still after it is through boiling. It is best to take it out immediately, cool quickly and rinse in clean water until it is washed.
A dark scum will always form on the dye when it cools and this will spöt the material. The same effect will be produced if the dyestuff is allowed to run down a part of the material after.

69. Yellow Brown with Alder Bark

Yarn 250 gr.
Alum (Mordant) 32 gr.
Ålder Bark (Dry) *5* kg.
The yarn is mordanted and dyed like the yellow with ålder bark (see No 8). But it is boiled in the liquid for 1 to 2 hours, and left until cold. If wanted still darker it may be dried and boiled again in new ålder bark dye. This colour darkens in time.

71. Bronze Brown with Walnut Leaves

Yarn 2 50 gr.
Alum (Mordant) 4 0 gr.
Fresh Walnut Leaves 1 kg.
Boil the leaves for an hour, and strain. The mordanted yarn boils in the dye for 1 to 2 hours, Madder, santalic acid, mulberry and oak gäll are pounded fine, put in a bag and boiled for 3 quarters of an hour. The yarn is put dry into the liquid and boiled with the bag for a half hour, and then both are taken out. Add the iron sulphate and cool, and then boil they yarn for *5* to 10 minutes. If wanted darker, use

more iron sulphate.

79. Dark Red-Brown with Madder

Yarn	2 5 0	gr.	
Alum	45	gr.	}
Cream of Tartar	16	gr.	} Mordant
Madder	125	gr.	
Oak Gäll	12	gr.	
Iron Sulphate	10	gr.	

Mordant the yarn as usual for 1 hour. Put the soaked madder in clear water. When the liquid is milk-warm, add the wet mordanted yarn. Heat and boil, keeping an even motion for 15 minutes, and then take out. Add the crushed oak gäll and stir. Boil the yarn in this for a half hour. Take out, add iron sulphate, cool a little and put yarn back. Boil, stirring evenly for 15 minutes.

GREY DYES

All plants that contain tannic acid will make grey dyes.

Many kinds of bark contain tannic acid from which, by adding iron salts, grey to black dyes may be obtained.

Boil the plants and the material first in this dye, which will give it a yellow, red or greenish colour. Remove the goods and add the iron sulphate, which will change the colour to grey. This grey will always have a tone of the foundation colour which the plant alone gives: but the more iron sulphate that is added, the darker and more grey the colour will become.

Always maintain accurate proportions between the strength of the dye and the amount of iron sulphate. In a weak dye, a dark grey dye cannot be obtained, however much iron sulphate is added.

80. Gray Brown with Alder Bark

Yarn	2 50	gr.	
Alum (Mordant)	32	gr.	
Ålder Bark	4	kg.	
Iron Sulphate	10 to 30	gr.	
Cream of Tartar	16	gr.	} Mordant
Fresh Lady's Mantle	% to 1	kg.	
Iron Sulphate	5 to 30	kg.	

The yarn is mordanted as usual. Boil the lady's mantle for an hour, and strain. Boil the mordanted yarn in this liquid for an hour. Remove this. Add the iron sulphate. Boil the yarn in this liquid until the colour is dark enough.

BLACK DYES

Black dyes can, like grey, be made with the aid of iron salts from the plants containing tannic acid. But they can also be obtained from the blue dye-stuff in logwood. This latter is now most generally used. Although the dye-stuff in logwood is blue, black may be obtained from it by using different sorts of mordants. In order that the black will not be too bluish, a little yellow dye should be added to the logwood.

For black dyes, an iron kettle is best. Untinned copper may be used, but not tinned copper kettles.

Logwood is always put in a bag to be boiled and, to save time, the goods may be boiled at the same time as the bag. But it must have plenty of room in the kettle.

Good dyed black must be dried immediately after dyeing, and then washed well in strong soapy water and rinsed in clean water until it is absolutely clear. When the black dyes are well boiled and properly handled, they are absolutely fast.

88. Black with Sorrel

Yarn 250 gr.
Fresh Sorrel 1 to IM kg.
Logwood 175 gr.
Birch Ashes 250 gr.

Boil the sorrel for 1 to 2 hours in a clean scrubbed iron kettle. Strain and scour the kettle before putting the dye back. In this the wet unmordanted yarn is boiled for 2 hours, and lies in the liquid until cold. The yarn should be a dark grey green. Put to soak the logwood, the day before dyeing, and boil in clear water for 2 hours, and take the bag out. The mordanted yarn which has been squeezed out of the sorrel dye and rinsed in lukewarm water is put in the logwood liquid and boiled for 2 hours. When the logwood dye is nearly cold, it is mixed with 1 to 2 litres of dye, which is made by pouring boiling water in the birch ashes, stirred and let stand till cold and clear. Let the yarn lay in the dye for 12 hours, and then dry. Wash later.

Hand Measurements.

15	gr.	Soda	= 1	Handful.
100	gr.	Greensoap	= 1	Heaped wood spoon.
25	gr.	Mådder	= 1	Heaped tablespoon.
20	gr.	Mulberry	= 1	Heaped tablespoon.
15	gr.	Logwood	= 1	Heaped tablespoon.
20	gr.	Cochineal	= 1	Heaped tablespoon.
8	gr.	Alum	= 1	Heaped tablespoon.
8	gr.	Coarse cream of tartar	= 1	Heaped tablespoon.
12	gr.	Coarse powdered Potassium Chromate	= 1	Heaped tablespoon.
10	gr.	Iron Sulphate	= 1	Heaped tablespoon.
10	gr.	coarsely pounded Copper Sulphate	= 1	Heaped tablespoon.
1	gr.	Olium	= 5	Dröps.

Links

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http://www.ketteundschuss.de/html/farbepflanzen.html (german)
http://www.mittqard.de/archiv/index 02.html (german)
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http://www.ruqreview.com/13-3nest.htm (english)
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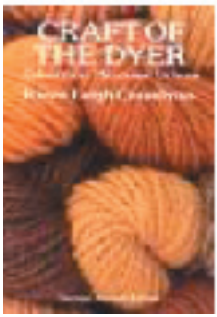
http://kws.atlantia.sca.org/dveinq.html (english)
http://www.silkewerk.com/dveinq.htm (english different colour samples)

Favorite Books

The Chemistry of Natural Dyes
Dianne N. Epp
Spiralbook
Terrific Science Pr (Juni 1995)
ISBN-10: 1883822068
ISBN-13: 978-1883822064



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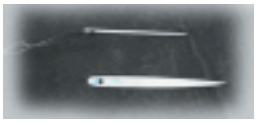
Dyeing with Plants

Over open Fire and at home

By Alenn von Horn

The Bone Needle



By Arnulf der Zeilner

Documentation:

This kind of needle was used all over Europe (and in most other parts in the world). A good exaple ist the bone needle in the Reiss-Engelhorn-Museum in Mannheim.
Bone needles were replaced by metal needles in the middle ages but was in use in Germany at least to a time between 950-1150 (Excavation of the Landesamt für Denkmalpflege near the Arnsburg north of Frankfurt/Main between Lich and Butzbach, 1984-1985). So Arthur MacGregor is wrong when he write „From the opening of the medieval period metal needles entireley displace all those of bone .

They also found medieval bone needles in Schleswig, Germany , especially in Haithabu . We do not need to point out all the prehistorical (non period) findings but as another example there are all the viking age bone needles excavated in Sweden and Norway . Bone needles were built in various kinds and sizes for lacing and sewing purposes. The needle I built is for using a thread to sew simple woolen or linen cloth.

Construction:

For making a bone needle you need a piece of bone (long bone, for example cow or deer), a vice, a saw, a file, a drill, and a piece of sandpaper if possible. Because I am no blacksmith I decided to use modern tools but no electricity (so all is „handmade“). It seemed quite simple to me to cut the long bone into the right length then to cut it into two halves and then to cut out a piece which has the right diameter (I used the vice and a saw fort hese steps). It was a simple work to do but took a lot of time.
I started to shape the needle then. For this purpose I putt he piece of bone into the vice and started to use the file. After that I used a 1mm drill to drill the hole. Tis is quite difficult because it has to be in the middle of the needle and the bone tends to break if you use to much force or speed. Therefore I do not recommend some electric drill!
The finishing should be done with sandpaper if available.

Shape:
Because it is a sewing needle there is no possibility to make some ornamentic desing. The shape depends on how the bone did grow, so sometimes the bone needle may also be curved wich is in some cases intended. In the best case you are able to choose the right bone fort he needle you want to build.

Bone needle with mud and stones excavated in Enlene (France)

Keep sending articles and artwork to make this newsletter flourish! We need you, and since we also exists for you, any help you give us, you actually give yourself as well! So, what are you waiting for? Bring us the article you had always wanted to write, it can be just about anything. Do not be shy, we are always open, at your service.

Lord Agmund Stoltefoth

If you want YOUR website to be presented here in the newsletter, write us an article that describes it in your own words. It would be good if you includes ways to interact with it, to make it grow. We want to bring forth the best of the best in each endeavour, so we need you to write as interesting as possible about your site.

Remember, we cannot present something that is not sent to us!

/Agmund and Anya