



BioChromes

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Intro

This booklet collects the natural dye experiments we conducted during BioChromes Week at Fabricademy.

Together with Amber O'Kelly, Flora Houldsworth, Johanna Schründer, Madeleine Olsen, and Tajah Ellis – guided by Cecilia Raspanti – we experimented with plants, insects, modifiers, mordants, and lake pigments.

The following pages present the fabrics we coloured using these natural sources, showcasing the diverse range of hues we achieved. You'll also find details on fibre preparation, the influence of modifiers, immersion times, number of dips and dye combinations.

☺amples

Cotton-viscose

Scouring

Boil the fabric in water with sodium carbonate for 1 hour to remove impurities.

Mordating

Prepare a triacetate bath by mixing 0.5 L of vinegar with 50 g of aluminum sulfate until fully dissolved. Slowly add 25 g of sodium carbonate. Immerse the samples in the bath, extract them and allow them to dry completely.

Fixating

Wet the samples in a solution of sodium percarbonate and water (1 g per liter of water).

Wool

Mordating

Soak the wool in warm water with potassium aluminum sulfate (15% WOF) and a pinch of cream of tartar. Leave it for about 1 hour and let it cool in the same bath.

Natural dye sources

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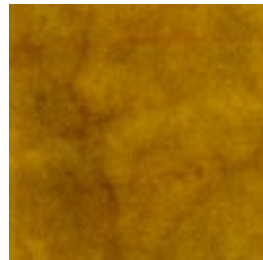
Alkanet

Alkanet (also called Dyer's Alkanet or Alkanna Tinctarium) is a small herb with rough green leaves and violet-blue flowers. It belongs to the borage family.

The roots contain a pretty purple dye that isn't soluble in water, so ethanol is often added to help extract the color.



neutral (10 mins)



marigold (2 mins)



cochineal (4 mins)



Black bean

Black beans are small, dark legumes from the Fabaceae family, commonly found in many kitchens. When used for dyeing, they produce soft shades of blue, green, and purple.



neutral



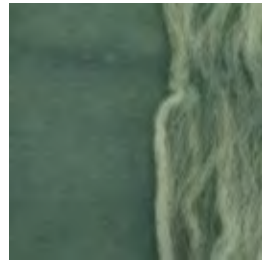
Black Hollyhock

Black hollyhock (or *Alcea Rosea Nigra*) is a tall garden plant with large, round, dark green leaves and striking deep purple-black flowers that grow on long stems.

The petals contain a natural pigment that produces shades of purple, blue, or greens.



neutral (10 mins)



neutral (overnight)



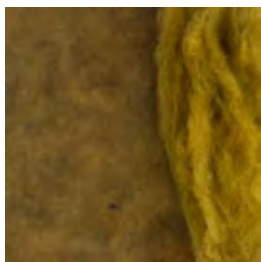
6iron



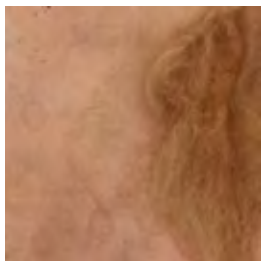
neutral



soda



iron (overnight)

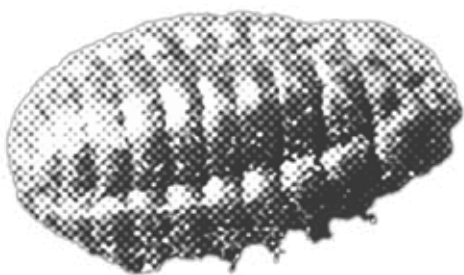


soda and iron
(overnight)

Chinese Rhubarb

Chinese rhubarb is a perennial herbaceous plant with large, jagged, hand-shaped leaves and thick, deep roots. The roots produce shades of yellow and orange. They are also an important source of natural dye in Nepal and Tibet.





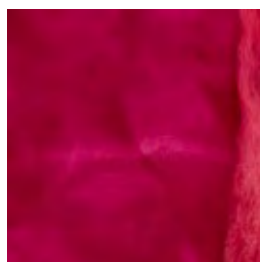
neutral (5 mins)



neutral (40 mins)

Cochineal comes from tiny female insects that live on prickly pear cactus plants. When dried, they look like small silver-grey seeds or peppercorns.

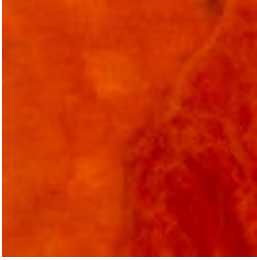
These insects are used to make a bright red dye.



neutral (overnight)

Cochineal

Coreopsis



neutral (10 mins)



neutral (overnight)



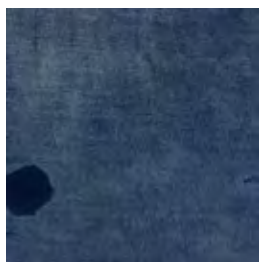
iron

Coreopsis (also known as Coreopsis Tinctoria or Dyer's Coreopsis) is North American native flowering plant that stands tall with yellow, orange, and burgundy blooms. As its name tinctoria suggests, it's long been used for dyeing, producing shades of yellow, red, green, and orange.





neutral (15 dips)



neutral(overnigh)



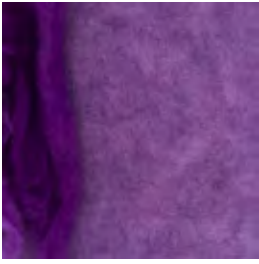
*Different shades
achieved by varying
the number of indigo
dips.*

The Japanese indigo (also known as dyer's knotweed) is a green plant with broad leaves and tall stems. It belongs to the buckwheat family and is known for producing a deep blue dye. This natural pigment has been used by dyers for centuries.

Indigo

Logwood

Logwood (also known as blackwood or campeche) is a flowering tree from the legume family, native to Central America. It was once an important trade dye used in Europe from the 17th to 19th centuries. It creates shades of violet, grey and black.



neutral (2 mins)



copper



neutral (overnight)



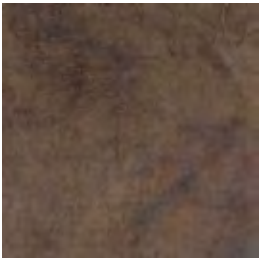
indigo (1 dip)



iron



soda (overnight)



copper (overnight)



soda and 1 dip in
neutral logwood





Marigold (or Tagetes) is a vibrant flowering plant native to Mexico. It produces bright golden-yellow to orange blossoms.

Most marigolds have green and pinnate leaves.

Marigold



neutral (10 mins)



neutral (overnight)



iron (overnight)



iron (20 mins)

Madder



neutral



neutral (3 h)



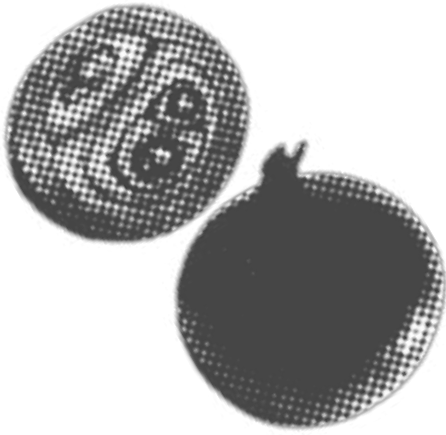
weld (3h)



half madder / half indigo

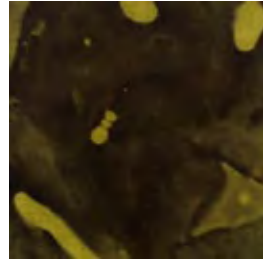
Madder (or *Rubia tinctoria*) is a perennial plant with fleshy swollen roots, which give the red dyes, and star-shaped, prickly leaves. Used for thousands of years, madder dyes have been found from ancient Egypt to the Roman Empire and Norse burial sites.





Red onions (or *Allium cepa*) are cultivars with purplish-red skin and white flesh tinged with red. It's commonly used in cooking, their skins have also been valued as a natural dye.

Red
onion



neutral



soda



soda (short)



soda and weld

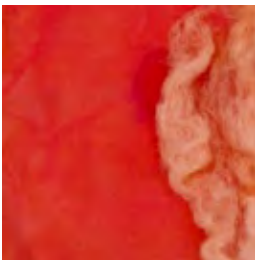
☼afflower



neutral (1 dip)



neutral (1h)



neutral (overnight)

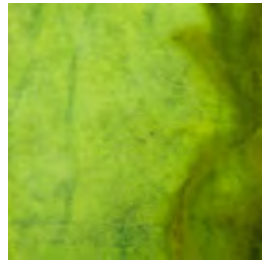
Safflower (or *Carthamus tinctorius*) is a spiky annual native to Asia and the Middle East. Its blooms produce brilliant yellow and red pigments. It appears ardy and tall, with thorny leaves. Once the yellow pigment is extracted, a bright pink dye can be obtained.





Weld is an ancient European dye plant with spikes of tiny yellow flowers. Rich in the pigment luteolin, it produces a brilliant yellow dye once used to color the robes of the Vestal Virgins in Roman times.

Weld



indigo (1 dip)



indigo (3 dips)

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