

Living Colour

Coloured tannins, photosensitive & fluorescent dyes

Combinations, experimental techniques

Living Colour - August 1-17, 2023 **UPDATED 2023-07-31**

	Date	Lecture	Dye Lab	Topic	Key learnings
				Pre-reading & sourcing materials	<i>Natural textile materials, common dye sources in your country of origin</i>
WEEK 31	Aug 1 Tue	9.30-11.30	12-16.30	Preparing the fibres, mordanting	<i>Origin of natural dyes. Dye safety. Pre-dyeing preparations: material selection, washing & scouring, mordanting. Coloured mordants. Colour fastness, sustainability.</i>
	Aug 2 Wed	9.30-11.30	12-16.30	Historical dyes, indoles, indigoids	<i>Brief history of natural dyes. Imperial purple. Vat dyeing with woad blue. Dyer's safety</i>
	Aug 3 Thu	9.30-11.30	*	Dye portfolio design *independent work	<i>Planning the dye sample portfolio. Preparing a dye plan. Recipes. Marking your samples before dyeing. Recording your process. Cooperating in the dye kitchen.</i>
	Aug 4 Fri	9.30-11.30	12-16.30	Anthraquinones, red and orange dyes	<i>Dyeing reds, low energy & cooking methods. Preparing dye extracts. Effects of temperature, time, pH.</i>
WEEK 32	Aug 7 Mon	*	-	<i>*9.30-12.30 Excursion to recycling centre 12.30-16.30 Excursion to a supermarket, restaurant & nature</i>	<i>Finding pre-loved textile materials from re-cycling centre. Recognizing and sustainably collecting plants from nature and/or side-stream dye materials from super-markets / restaurants.</i>
	Aug 8 Tue	9.30-11.30	12-16.30	Anthochlors, flavones, flavonols, Yellows, golden colours	<i>Dyeing yellow. Medicinal dye plants. Preparing dye extracts, printing paste, watercolours, inks and pigments. Mordanting more material (e.g. pre-loved) if needed. Local dye plants.</i>
	Aug 9 Wed	9.30-11.30	12-16.30	Anthocyanins, ecoprinting Samples to lightfastness test.	<i>Ecoprinting i.e. botanical contact printing with fresh and dried plants, flowers, and mushrooms. Dyes from food side-streams.</i>
	Aug 10 Thu	9.30-11.30	12-16.30	Combinations, experimental techniques	<i>Oxidation, photo-oxidation, water-solubility. Combining different types dyes, experimental techniques. Monochromatic cyanoprinting. Printing, painting, dyeing pre-loved materials</i>
	Aug 11 Fri	-	*	*Independent work	<i>Sample dyeing for your portfolio/continue favourite technique</i>
WEEK 33	Aug 14 Mon	Return the learning diaries	*	*Independent work Pick up samples from lightfastness test.	<i>Sample dyeing for your portfolio/continue favourite technique (dye kitchen/3D lab)</i>
	Aug 15 Tue	-	*	*9.30-15.30 3D-printing lab, PLA, indigo	<i>Natural dyes applied in 3D-printing with PLA</i>
	Aug 16 Wed	-	*	*Independent work	<i>Sample dyeing for your portfolio/continue favourite technique (dye kitchen/3D lab)</i>
	Aug 17 Thu	9.30-11.30 Return the portfolio	-	Portfolio presentations and evaluation	<i>Sharing dyeing experiences and results. Discussions and evaluation. Exhibition planning (if applicable).</i>

Agenda today

- Recap protein and cellulosic fibres
- Coloured tannins
- Wind-fall lichen, fermenting
- Fluorescent dyes
- Combining different types of dyes in ecoprinting, discharge dyes (= acidic on cotton).
- Ecoprinting with background colour
- Experimental techniques.
- Monochromatic cyano-printing.
- Printing, painting, dyeing pre-loved materials.
- **Remember to pick up your samples from lightfastness test next week for your portfolio!**

Recap: fibre processes

Mordanting

Dyeing

Protein fibres

wool
silk
alpaca
polyamid

alum mordant
aluminium acetat
aluminium triformate
cold mordant and no
big changes in
temperature

pH as low as possible (indigo)
No big changes in
temperature, and no too hot
(max 80°C)
time
Wool: risk for felting


Cellulosic fibres

cotton
linen
hemp
nettle
viscose
ioncell


Soda wash
-> make it alkaline
Tannin
Aluminium acetat
Cool process

pH > 7
temperature can be high
longer times to get better
colour fastness

Combinations, experimental techniques

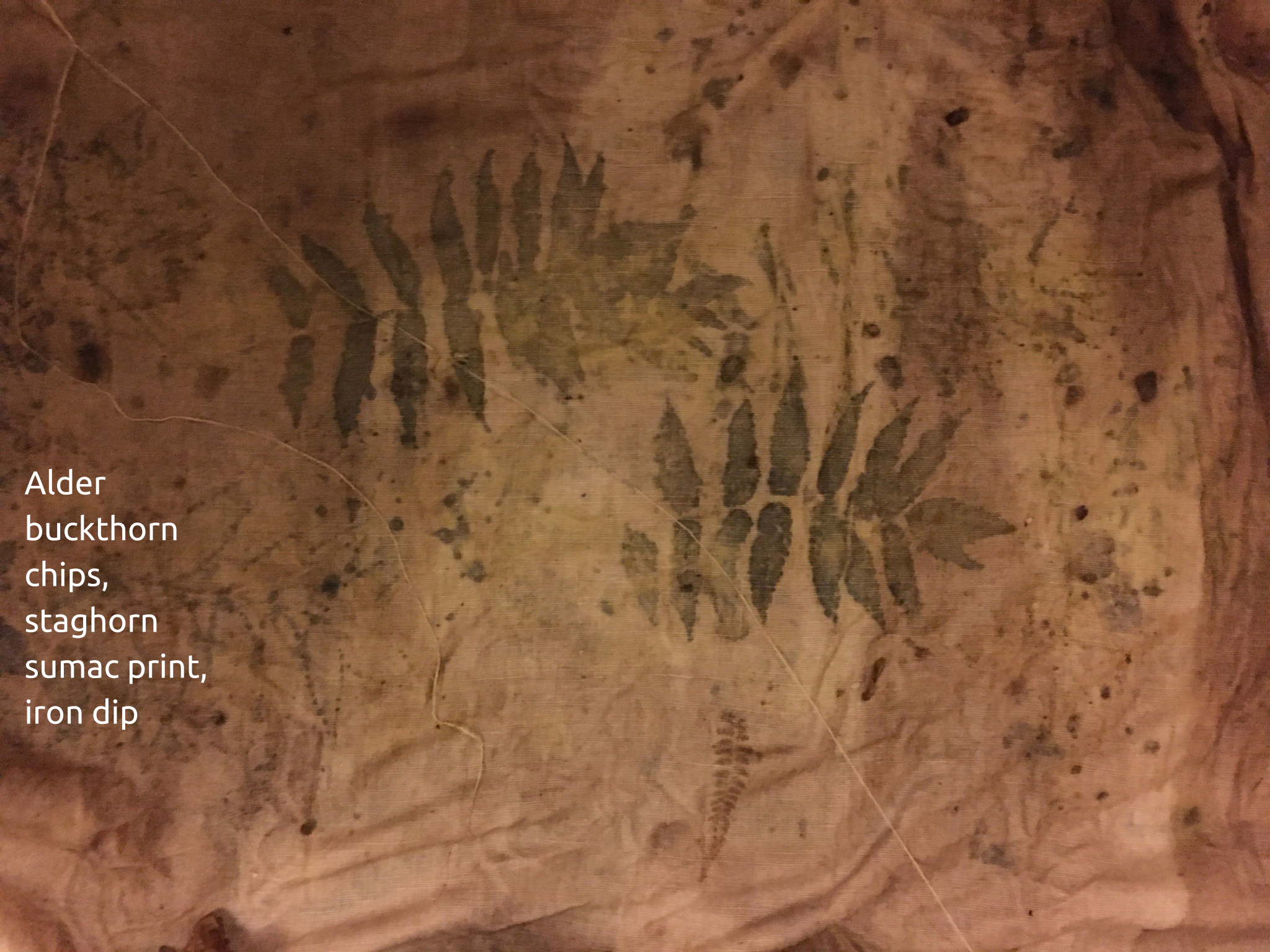


Red onion
peels,
staghorn
sumac print,
iron dip



Tansy/pietar-
yrtti,
staghorn
sumac print,
iron dip

Alder
buckthorn
chips,
staghorn
sumac print,
iron dip



Dyeing process

Extraction

Dyeing

Coloured tannins

pH: 9-10

Boiling

1 hour

pH: no need to adjust

80°C

1 hour

OR

OR

Fermenting (one week or more) in alkaline bath

Cold dyeing (24 hours or more)

Ecoprint
cooked in
cochineal
for 2 hours
+ 1 hour
with added
iron sulfate.



The image shows a close-up of a dark blue, textured wool fabric with several natural plant prints. A prominent feature is a large, fan-shaped leaf print in shades of green and yellow, with clear vein patterns. Other prints include smaller, more abstract shapes in brown, tan, and yellow, some resembling flowers or smaller leaves. The prints are created using logwood dye and have been treated with sunlight, as indicated by the text.

effect of
sunlight

Ecoprint on
wool with
logwood
blanket

*Ulla
Lapiolahti*





Ecoprint on
cotton with
iron blanket

Windfall lichen

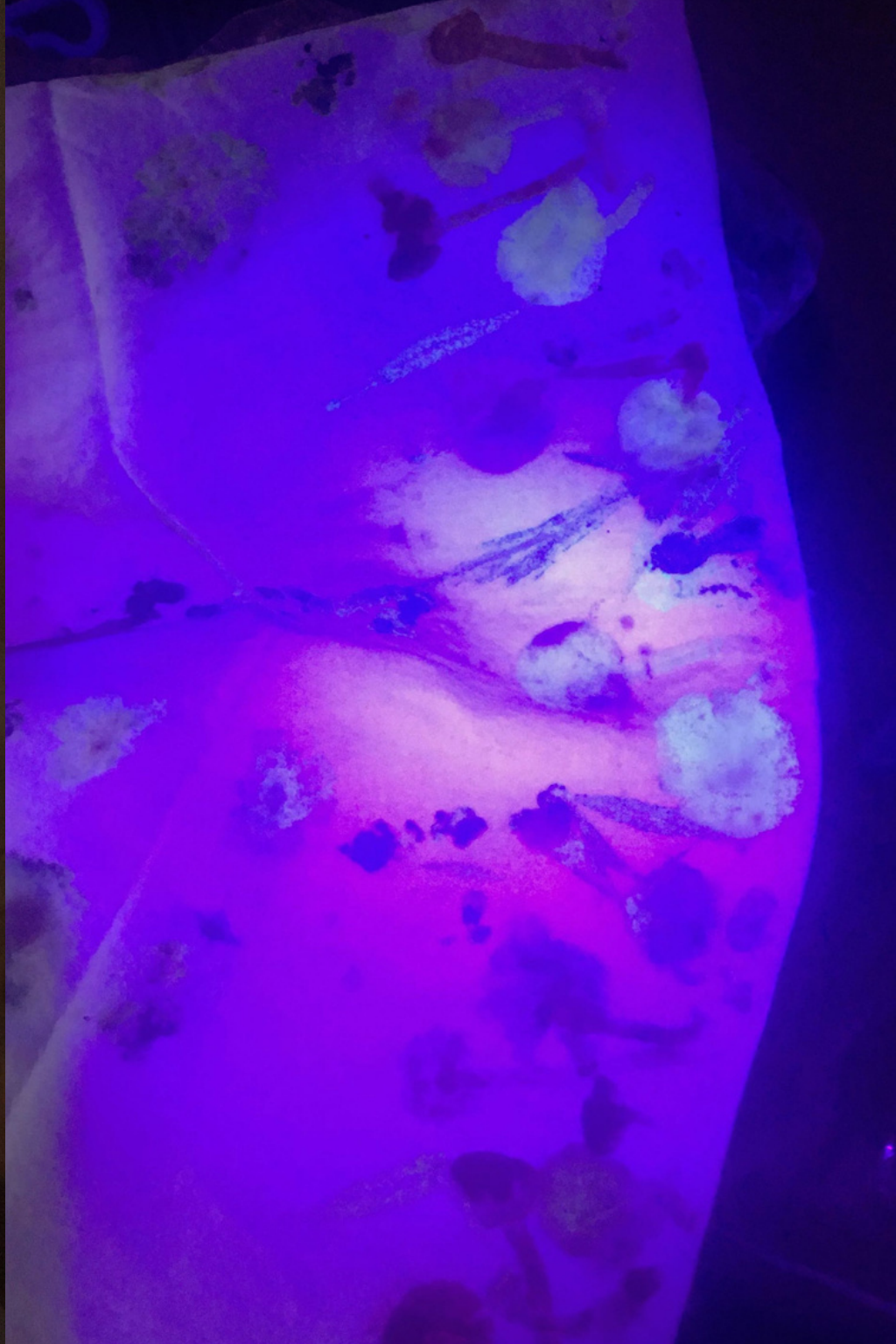
Everyone's rights: you can collect lichen that has fallen from trees.

For violets and purples you need to ferment the lichen in ammonium or pee for 2 months and oxidise them every once in a while.













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Individual work

- Continue sample dyeing for your portfolio if needed
- Individual experiments with favourite technique (dye kitchen/3D lab)

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Samples and photos: Emil Lyytikkä

