A comprehensive study of botanical wet collection conservation issues

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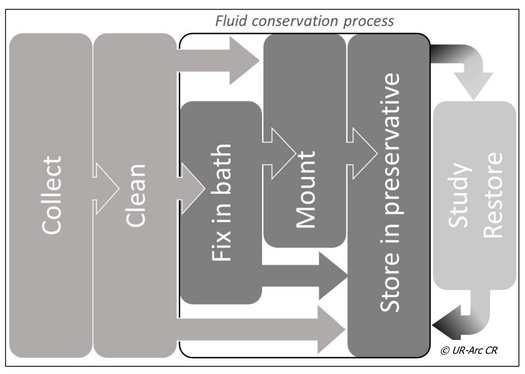
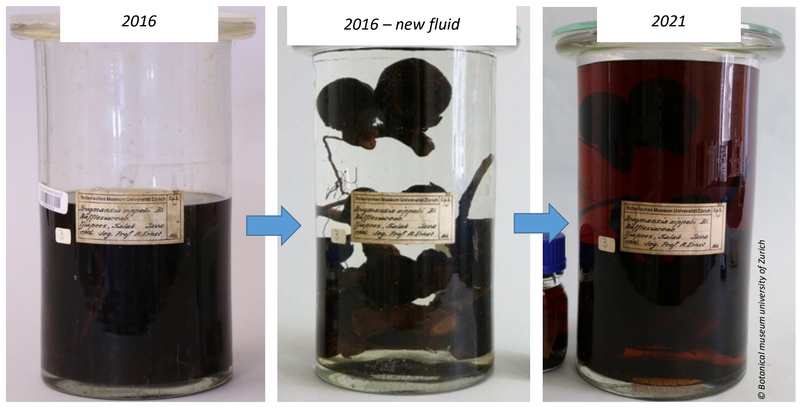
Background

Fluid preservatives are widely used, since the XVII century, for the conservation natural history biological specimens. Different recipes have been developed since then, using **alcohol-based solutions** or, from the XIX century, **formaldehyde** as fixative. More recently, less toxic preservatives, such as **glycerol**, have been preferred. Conservation in fluid is still currently employed by botanists and naturalists for specific purposes such as preserving and presenting the 3D structure of specimens.

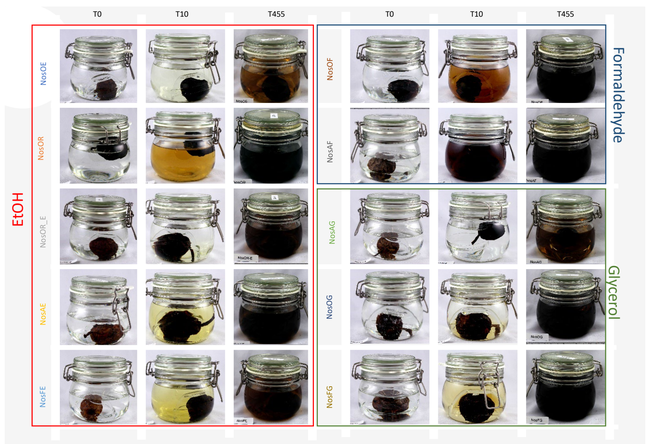




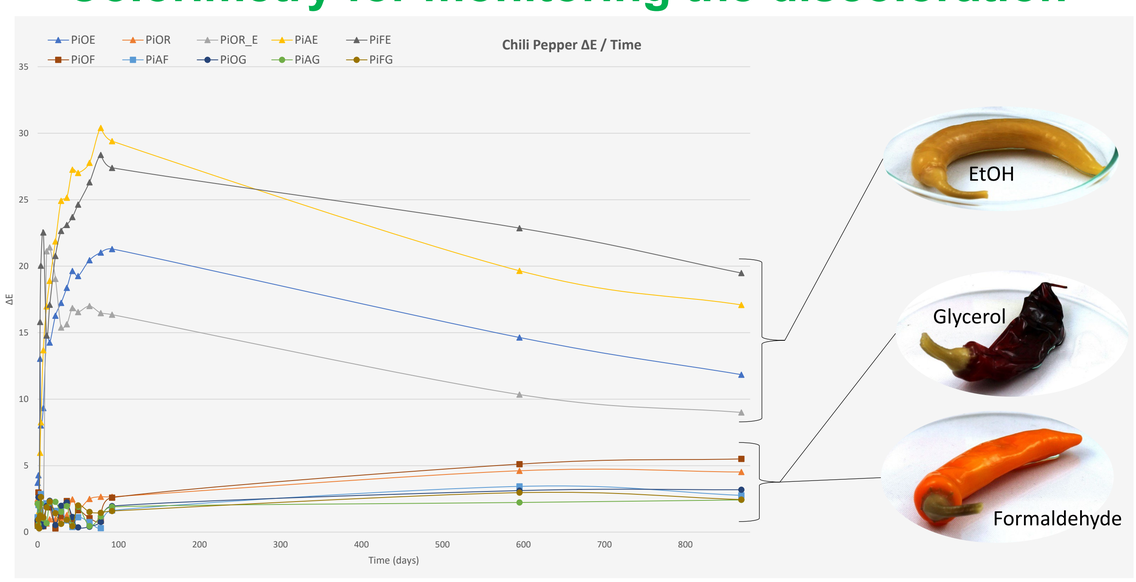
The challenge

In addition to the common **problems** encountered in all wet collections, such as **evaporation** and **toxicity** of the solvents, **dehydration** and **degradation** of the specimens as well as **ageing** and **failure** of the sealants, botanical collections in fluid have an additional, specific, complexity that is the **discoloration** issue.

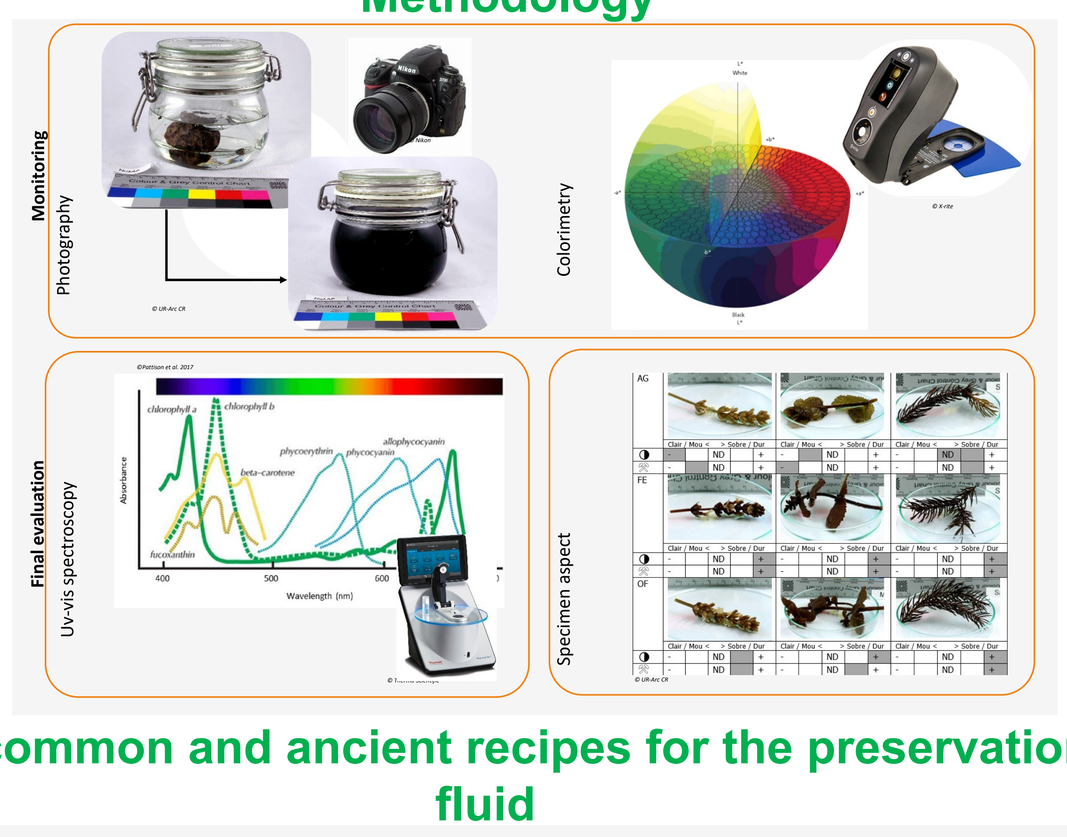
Photographic documentation and monitoring in time



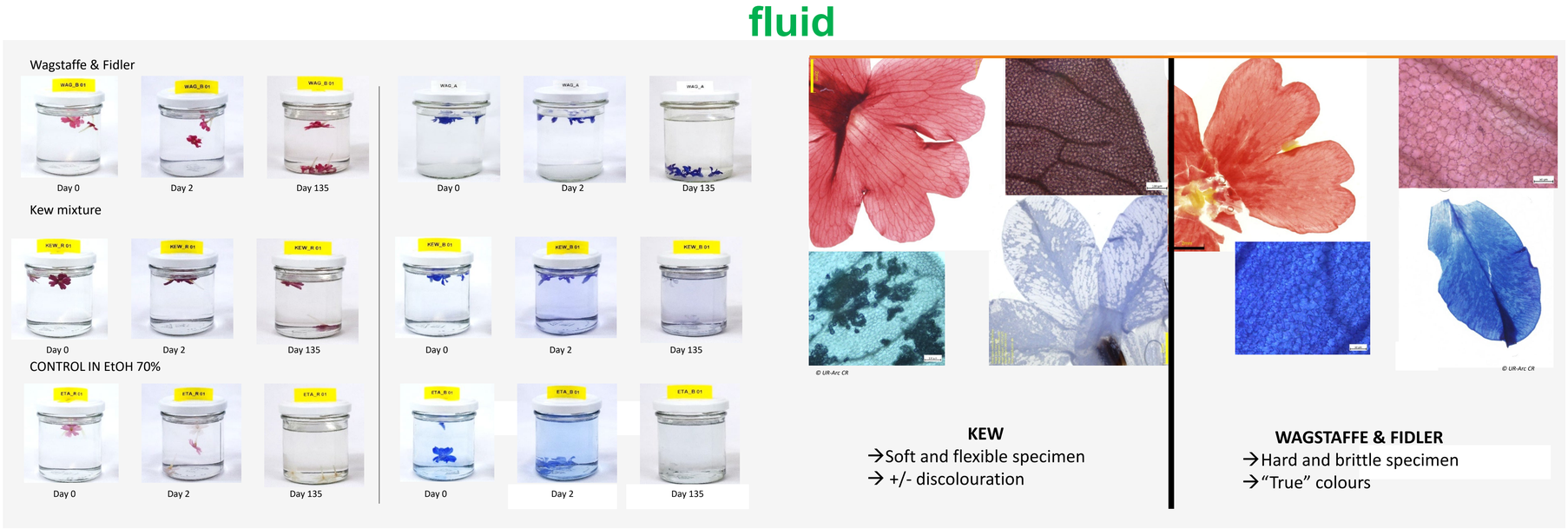
Colorimetry for monitoring the discoloration



Methodology



Comparison between common and ancient recipes for the preservation of plant colors in fluid



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