

Pollen reference collection digitization

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Situation

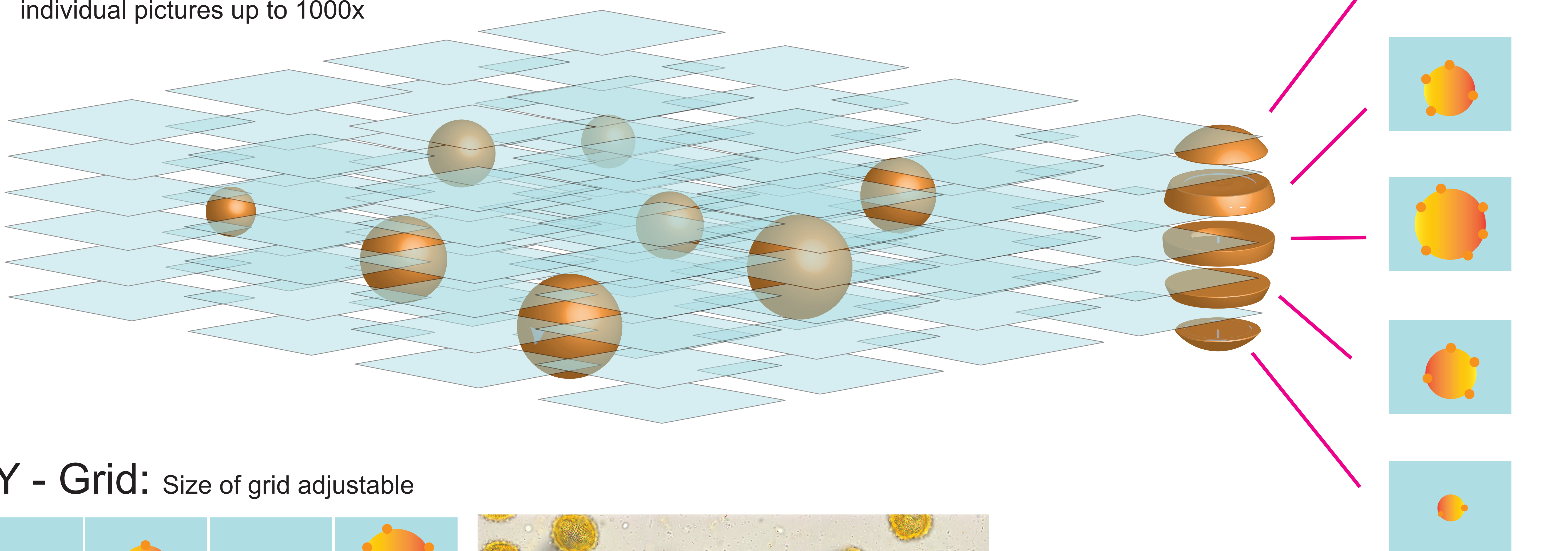
The extensive Utrecht University pollen reference collection holds thousands of pollen samples of many species and genera from all over the world and has been a basis for the widely-used North West European Pollen Flora. These samples are fixed on glass slides for microscopy use, but the aging collections are in need for curation. Also, the increased requests for remote access and efforts to automate pollen analysis has sparked a digitization effort which is part of automating the palynology workflow, whereby the variability and 3D nature of the specimens are represented.

Technical Solution

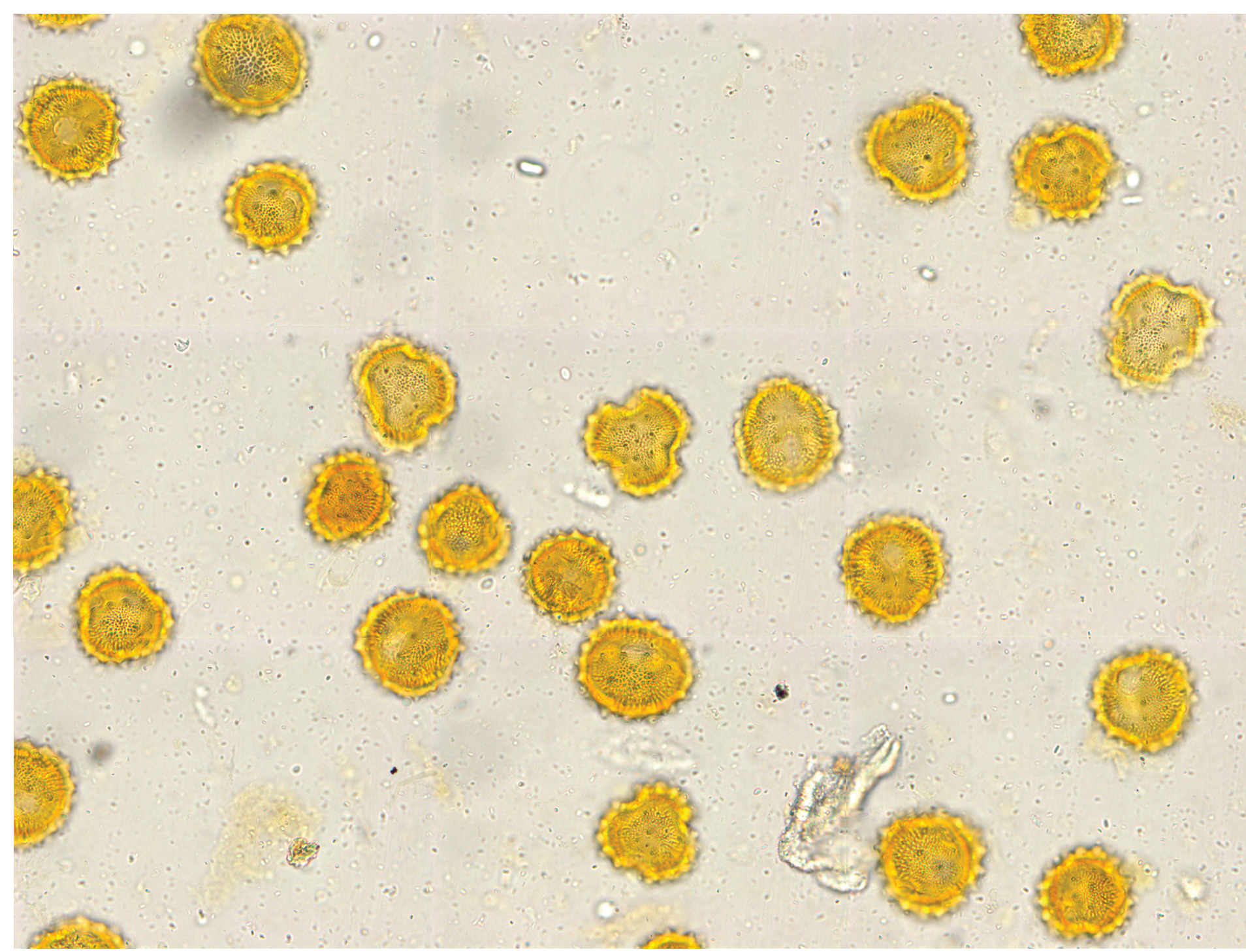
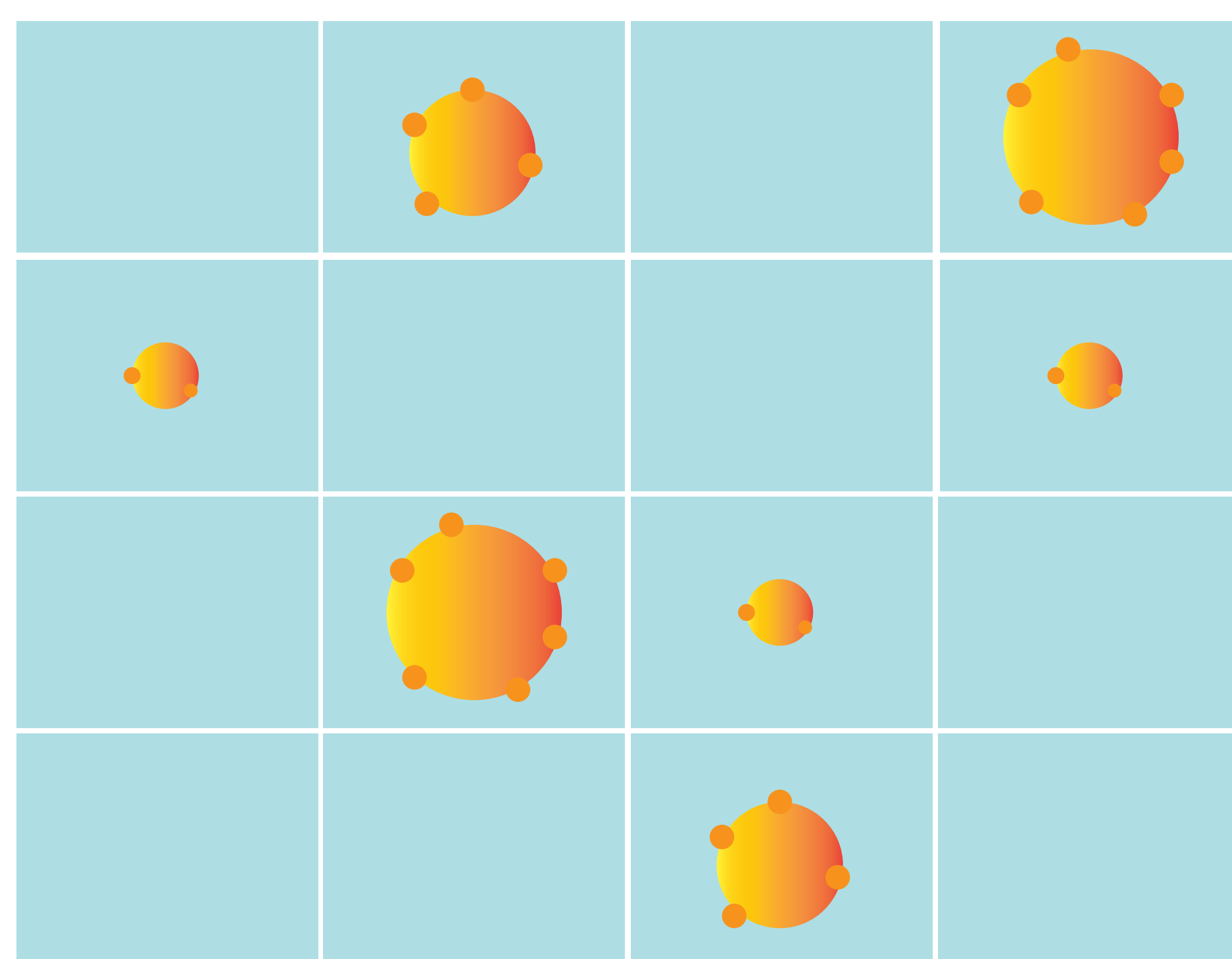
The Leica-DM6000B in combination with the LAS Core program is capable of automatically creating high-resolution 3 dimensional Mosaic scans of entire sides; photos that are made through the microscope are stitched together interactively by the program to form a 'mosaic' of pictures that span a larger area, while retaining the detail of high magnification. This enables researchers to maneuver digitally in the picture like they normally would on a microscope. We aim to ultimately create an online high quality reference collection that enables the handling of viewing requests from all over the world, with easy and fast sharing, which will improve the use of reference material in research and education.

Detailed XYZ-scans of large areas on the palynomorph sample slide.

XYZ-Mosaic: Magnification of the individual pictures up to 1000x



XY - Grid: Size of grid adjustable



Onopordum acanthium 3x3 grid at 630x magnification

Digital Pollen Record benefitting:
Research, Education &
Global Collection Sharing



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