

Digitizing the dinoflagellate cysts collection

Preservation of unique material and other possible applications

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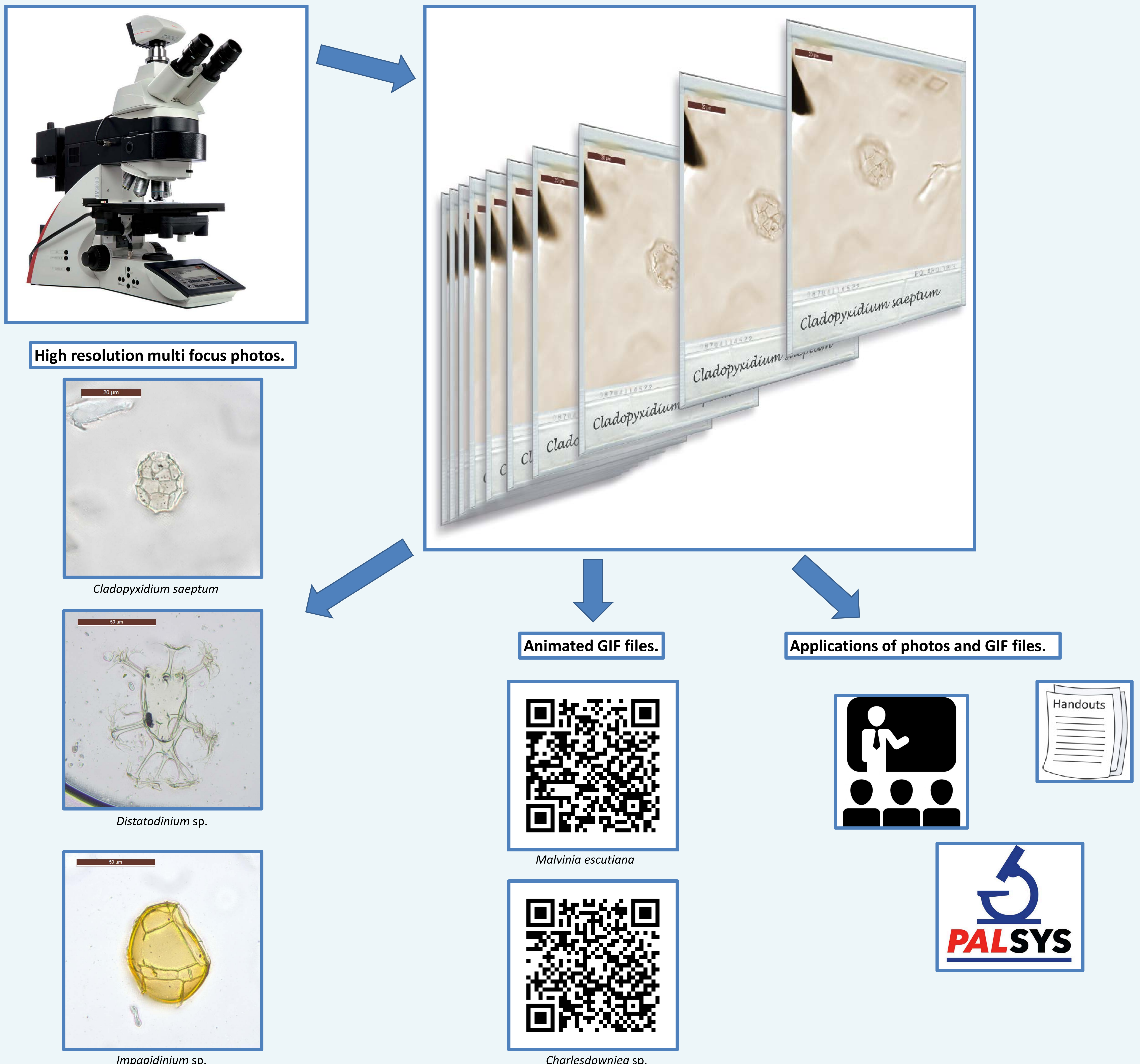
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The organic remains of fossil dinoflagellate cysts (dinocysts) have become an important paleoenvironmental and stratigraphic tool, but application is specialist-dependent. The dinocysts reference collection of Utrecht University comprises over 900 slide boxes, containing samples of many different species from Meso- and Cenozoic sedimentary basins worldwide. The collection contains exquisitely preserved specimens and even holotypes of a number of species and genera. However, the glass slides on which these samples are fixed will not keep their quality forever and access is limited.

Digitization:

- Leica DM6000B microscopes, in combination with the associated software, make it possible to digitize the dinocysts slides on high resolution.
- The microscopes have a Z-stack function which automatically takes photographs on different focus levels at a fixed interval.
- Taking up to 5 photos per second at an interval of 0.5 μm .
- The stack of photos that is created allow working on a “virtual microscope”.
- These stacked photos can also be used to create animated GIF files which are easily applicable in a variety of ways, such as presentations, lectures, practical handouts, websites and dedicated specialist databases such as PALSYS.
- With all these applications the digitization can contribute to improve student training, disseminate and catalogue important reference material, and preservation of unique material.



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