Application Note

Micro-CT of Insect Larva Protocol

related instrument Leica EM CPD300
Micro-CT of Insect Larva Protocol

INTRODUCTION
Species: red blood worm (*midge larva*)
Critical point drying of midge larvae with subsequent X-ray micro-computed tomography (micro-CT) to reconst- ruct the inner anatomy.

PROCEDURE
Sample Holder:
Sample was placed individually in the chambers of Arthropoda holder.

FIXATION AND DEHYDRATION
2.5 % Glutardialdehyde (in 0.1 M phosphate buffer)  overnight
0.1 M phosphate buffer (1.8% Sucrose, pH 7.2)  3x 10 min.
Ethanol series: 60%, 70%, 80%, 90%, 96%, 100%  2x 10 min.
Iodine staining (1% iodine solution in 100% ethanol)  overnight
Ethanol: 100%  2x 10 min.

Leica EM CPD300 auto Program:

MOUNTING AND SCANNING
Dried sample was glued on an insect pin and scanned with an Xradia MicroXCT-200 X-ray imaging system (Carl Zeiss X-ray Microscopy Inc., Pleasanton, USA).
RESULTS

Volume reconstructions and virtual section of the red blood worm showing a variety of organ systems.

Courtesy of Elisabeth Lipke and Dr. Peter Michalik, University of Greifswald, Germany.
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