

Applications of the CLSM (Confocal laser scanning microscopy) in taxonomic research on cestodes, as exemplified by the Trypanorhyncha Diesing, 1863

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Detail imaging techniques such as light microscopy and the scanning electron microscopy are indispensable in modern taxonomy and morphology research. Along with molecular techniques, they are the main tools of today's scientists working on plathelminths such as the cestodes. For regular light microscopy, the worms are usually fixed and stained for further examination in the laboratory. The use of the Mayer-Schuberg's Aceto-Carmine staining and mounting in Canada balsam is one of the most common preparation techniques for cestodes.

We herewith suggest the use of the confocal laser scanning microscope (CLSM) as an additional approach to study especially rare species where only few specimens are available. The CLSM is already in use for morphological re-

search e.g. to visualize ectoparasitic monogeneans. So far, it has not been consequently applied for the cestodes.

In our research we used the Mayer-Schuberg's Aceto-Carmine stain and Canada balsam mounted specimens to generate 3D-illustrations of the relevant morphological structures of trypanorhynch cestodes, by using permanent mounts already prepared for light microscopy. However, also other staining methodologies have been described for CLSM and potentially can be used in future. Advantages and disadvantages of the different imaging techniques are discussed, by studying trypanorhynch cestodes from Balinese waters, Indonesia, and older material from parasite collections.