THE SUITABILITY OF AMMONIUM PICRATE-GLYCERIN IN PREPARING SLIDES OF LOWER MONOGENOIDEA

The mixture of ammonium picrate-glycerin recommended by Malmberg (Malmberg G., Skrifter utgivna av Södra Sveriges Fiskeri-förening, Arsskr. p. 19—76, 1956) for fixing and mounting permanent slides of lower Monogenoidea, has recently been used mainly by European investigators, because it has been found most convenient for phase contrast microscopy. However, its properties as a mounting fluid are not convenient, because the ammonium picrate evaporates and crystallizes in slides which have not been carefully framed or regularly looked after. Within 1—2 years, dependent on humidity and air temperature, the objects start to brown, their structure attains a granular appearance and, finally, becomes non-transparent. Such slides are useless for further studies.

The only method for re-establishing their former quality is their transfer into Canada balsam. This has been done as follows. The material framing the cover slip was dissolced in pure xylol or in a mixture of xylol and alcohol. Then the slide was placed in 96% alcohol and lifted off (not shifted aside) with a fine needle. The object sticking either to the cover slip or to the slide was placed into 80% alcohol for 2—3 min for dissolving the remnants of glycerin and of excessive ammonium picrate. Then the object was soaked in a graded series of alcohol and finally transferred into Canada balsam.

This procedure re-establishes the high quality of the slides and, in most instances, the objects are clearer than when freshly fixed. Each detail of the chitinoid parts of the haptor or the genital pores appears most clearly when examined in the phase contrast.

Fixing lower Monogenoidea in a mixture of ammonium picrate-glycerin requires little time and a minimum of technical equipment and can also be performed under field conditions. We suggest using this mixture for fixation, but not for mounting of permanent slides, because its properties as a mounting medium expire after about 6 months. For fixing and preparing the material for determination the use of the following procedure is proposed: the parasites placed on the slide in a drop of water of the size of the cover slip are pushed with a fine needle to the bottom of this drop and covered with the cover slip. Excessive water is sucked off with filtration paper until the body wall of the parasites ruptures. Then, any adhesive medium (e.g. Noyer's lacquer) is applied to each corner of the cover slip and the fixation liquid is placed to one of its edges. The water is left to evaporate and the fixation liquid to permeate the whole object (48 hrs at the least); then follows the transition of the slide into Canada balsam as described in the foregoing text. The slides should be mounted before the objects start to brown (after about 6 months).

In conclusion we should like to emphasize that fixation with a mixture of ammonium picrate-glycerin is suitable only for lower Monogenoidea (Dactylogyrus, Gyrodactylus, Tetranchus etc.) which are identified and differentiated by the chitinoid parts of their haptors and by their genital pores.

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