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NOTE ON THE USE OF PRESTAINING IN MICROSECTIONING

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Preparation of slides, to study the anatomy of tissues, often includes the use of paraffin sections. Especially in short term research, such as for instance carried out by students, this laborious method is a handicap. At the IVT, a method is applied in which the number of steps in the staining procedure with safranin is reduced as follows.

The material is fixed in 70% alcohol and subsequently stained in 0.5% safranin in 70% alcohol for about 30 minutes. Cellulose and lignified walls then show bright red colouring. After dehydration in respectively 96% alcohol and 100% alcohol for 2 to 3 hours, the material is placed in a mixture of equal amounts of 100% alcohol and xylene for 2 hours and via pure xylene embedded in paraffin. After microsectioning with a Reichert microtome, the sections are attached to the slides with glycerin-albumin. Paraffin is removed in xylene and, if the staining is still unsatisfactory, slides either undergo additional staining in safranin or are destained in 100% alcohol; they are subsequently mounted in Canada balsam. By making a series of slides in this manner, the optimum duration of prestaining can be established. The normal procedure of differentiation before mounting can thus be eliminated.

This method has been used successfully in a number of cases, e.g. for the preparation of slides of rose meristems and flower buds, embryosacs of tulips and embryo sacs of nerine.