

THE GLYCERINE GELATINE METHOD.

This method should be used for all filaments of Algae and Phycomycetes, and for any other soft structure which will shrink on treatment with the alcohols or xylol and chloroform.

The glycerine gelatine should be prepared as follows: Dissolve 1 part of best quality gelatine in 6 parts of hot water. Add 7 parts of glycerine and 1% of phenol. Filter through filter-paper in a hot water funnel, into a wide mouthed bottle.

Many things may be mounted without any staining, but most material is improved by careful staining, which may be done as follows:—The material should be washed in running water for an hour to take out the fixing solution. Then place a little of the material in a minute in a 3% solution of ferric alum, leave it for a few minutes and examine it under the microscope to see if any shrinking occurs. If any shrinkage takes place, weaken the solution until a concentration is found which causes no shrinking. Then place all the material in this solution and leave it for two hours.

Next wash in running water for half an hour, then stain in 1% aqueous solution of haematoxylin in a minute for from 2 to 24 hours. Material should be examined from time to time while staining in order to see when the staining is deep enough. It should be stained a little deeper than the color desired in the finished mount. Now wash in running water for half an hour and place it again in the ferric alum solution until the stain is of the required depth. To determine this, examine a little of the material under the microscope every few minutes. Now wash in running water for 6 hours or more, then put material in 10% glycerine (1 part glycerine to 9 of water) in a minute and allow it to remain uncovered until it has concentrated to the consistency of pure glycerine. Place the bottle of glycerine-gelatine in a dish of water and heat the water until the glycerine-gelatine melts. Place a little of the material on a warm slide with the fine pointed forceps, separate out the filaments (if it is an Alga or Phycomycete) carefully, add two or more drops of glycerine-gelatine with a glass rod, warm an 18 mm. cover-glass and place it in position.

Set the slide aside for several days and then spin a ring of Berry's Hard-oil Varnish round the edge of the cover-glass. This is done by spinning the slide on a turntable and holding a camels-hair brush charged with varnish lightly at the edge of the cover-glass. Let the varnish dry for 24 hours or longer and label the slides.