

more satisfactory than one which was wet when introduced into the dish. The water on the needle would promptly unite with the surface water in the dish, and several specimens would then be lifted from the dish in nearly every case, unless previously puffed away with the breath. But by wiping the needle, the individual plant desired can often be lifted out even if others are so near as to nearly touch the selected plant.

The dehydration dishes within the crystallizing pans proved very satisfactory, and permitted the continued cultivation of the particular strain under observation for a considerable period. **FREDERICK H. BLODGETT**

TEXAS AGRICULTURAL AND MECHANICAL COLLEGE,
COLLEGE STATION, TEXAS

TWO METHODS OF ORIENTATION OF SMALL OBJECTS IN PARAFFIN

THE following method is applicable to all objects which are sufficiently small to admit of embedding in watch crystals. It has been found practical and easy and is given here in the expectation that it will be of assistance to others.

Watch crystals of the Syracuse type with flat bottoms are employed. On the bottom, parallel lines about 2 mm. apart are ruled with a diamond. These are then scraped out with a coarse needle, the sharp edges being broken off and the lines widened to form open grooves. The watch crystals should be washed to remove the small particles of glass and are then ready for use. The watch crystals are prepared for embedding by coating the interior with a film of glycerin as usual, but care must be taken to rub the glycerin into the lines. When infiltration is complete, the watch crystal containing the objects is removed from the oven and the bottom slightly chilled by contact with cold water. It is then placed on the stage of a binocular microscope and the objects oriented with a warm needle, so that the plane of section desired shall be parallel with the lines and normal to the bottom of the watch crystal. As soon as the paraffin on the bottom has cooled sufficiently to hold the objects in place, the entire mass

is cooled with water in the usual manner. In orienting the objects it is found that the lines on the bottom of the watch crystal show more distinctly by transmitted than by reflected light. The block when removed shows on its lower surface minute parallel ridges which enable accurate and easy orientation when mounted on the object carrier of the microtome. The block should of course be placed in the microtome with the ruled surface upwards and then arranged with the lines parallel with the edge of the knife and the surface at right angles to the direction of motion, that is horizontal in the ordinary vertical type of Minot microtome, vertical in the horizontal type.

A second method, or variation of the method given above, is to rule the parallel lines on the watch glass with a "china-marking" pencil. These lines, even though the glass is thoroughly coated with a glycerin film, will come away with the paraffin block and may be used as orientation lines. This method may also be used for numbering or otherwise marking paraffin blocks.

JAS. A. NELSON

BUREAU OF ENTOMOLOGY,
WASHINGTON, D. C.

THE AURORA BOREALIS

TO THE EDITOR OF SCIENCE: The display of the aurora borealis mentioned by your correspondent, Mr. Thomas Byrd Magath, in SCIENCE, No. 1186, as seen at Fairport, Ia., on the ninth of last August at about 8.45 (Central time?) was also observed by the writer and others from a yacht anchored at Thimble Islands (Stony Creek), Conn., at about nine, 75th meridian time, of the same evening. The display was quite brilliant, although the streamers did not reach much above 50° in altitude. The region of greatest brilliancy was about N. 25° W., true.

On August 14 at about the same time a more brilliant display was seen at Stonington, Conn. (Lat. 41° 19'). The illumination reached much further to the eastward and the streamers were higher. At times masses of pale light detached themselves from the general illumi-