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A SIMPLE METHOD OF MOUNTING APHIDS

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Recent favorable comments have been received from Professors E. O. Essig and M. A. Palmer, and others, on aphid mounts made for Dr. G. F. Knowlton. In addition, several requests have been received for information concerning the mounting technique used. This has prompted the presentation of the following information:

Fresh specimens, or more commonly those preserved in 70-75 percent alcohol, are immersed directly in a 10 percent solution of KOH (or NaOH) in Syracuse watch glasses and placed in a warming oven, or the aphids may be contained in evaporating dishes and boiled over a flame or hot plate. The specimens soon become relaxed and are cleared to the desired degree. A medicine dropper or a fine pipette, is used to drain off the liquid each time from the Syracuse glass, and to replace it with the reagent which follows each time in processes of clearing and premounting. This procedure prevents injury which otherwise may result from moving specimens from one dish to another. Following KOH solution, transfer is made to 10 per cent acetic acid in which the KOH solution is teased or pressed out. The specimens then are flooded with fresh glacial acetic acid for 10 minutes. While in this solution the aphids may be stained, if desired, by adding acid fuchsin or alcohol fast green or other stain. Next the specimens are covered with a very thin and fluid mixture of Canada balsam and carboxylol (pure carbolic acid, crystals, 1 part; xylol, 3 parts by volume; and sufficient Canada balsam to make a thin and fluid mixture) for 10 minutes. The premounting treatment prevents shrinking and the formation of empty spaces or bubbles in the legs, antennae, and other parts of the aphid body. The dilute premounting mixture appears to facilitate the rapid infiltration of balsam in all parts of each aphid specimen, before it is placed into the mounting medium. Apparently the lack of balsam infiltration is an important cause of shrinking and other defects. Transfer specimens into Canada balsam. The number per slide will depend on the size of the aphids, number of specimens and forms present, and size of the cover glass used; usually from one to five or six specimens. The mounting medium should be of such consistency as not to spread out too freely on the glass slip when the specimens are arranged in it immediately before laying down the cover glass.