

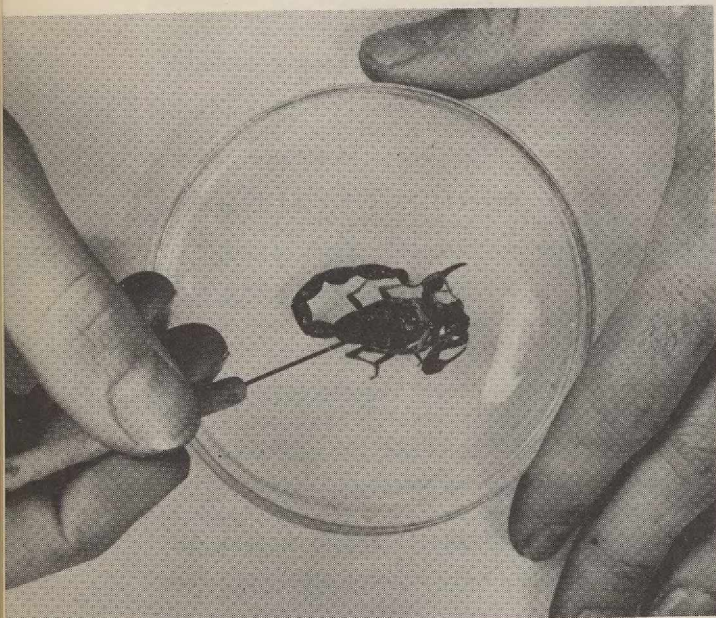
**IDEA****EXCHANGE****A SYNTHETIC RESIN EMBEDDING TECHNIC**

by

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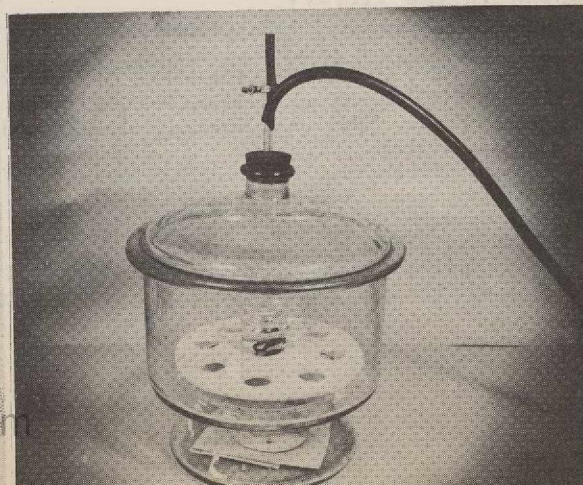


Although biological specimens have been embedded in synthetic resins for several years, many early preparations had the disadvantage of removing color from specimens. They also required a long and complicated curing process. In some cases, clouding made it difficult to see the specimen after the resin cured.

Recently, commercial houses have perfected several new synthetic compounds which are relatively easy to use, do not remove colors from specimens, and do not produce much shrinkage. The new media have been found to be useful in preserving such arthropods as insects, spiders, scorpions, centipedes, millipedes, ticks, and other specimens frequently used in teaching medical entomology. Plant specimens may also be preserved for display purposes.

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1. After specimen is collected in the field and preserved in 70 to 95 percent alcohol, it is necessary to make openings in the body cavity. This is done with a needle or insect pin in order to obtain thorough penetration of fluids involved and to allow complete impregnation of the specimen by the synthetic resin. The holes thus made are not visible in the finished block.

2. After pricking, specimen is placed first in absolute alcohol, then in anhydrous ether. Each of these steps requires from one hour (for small arthropods) to 24 hours (for larger forms) and are necessary to remove all traces of water from the specimen, since moisture will cause the block to become cloudy. Immersion in plastic follows.

3. Specimen is transferred to uncatalyzed plastic directly from anhydrous ether, and placed in a desiccator under reduced pressure of 500 to 700 mm. This evaporates all of the ether in the specimen, and aids in plastic impregnation. The desiccation must be accomplished slowly. It is completed when all the small bubbles have stopped rising to the surface.

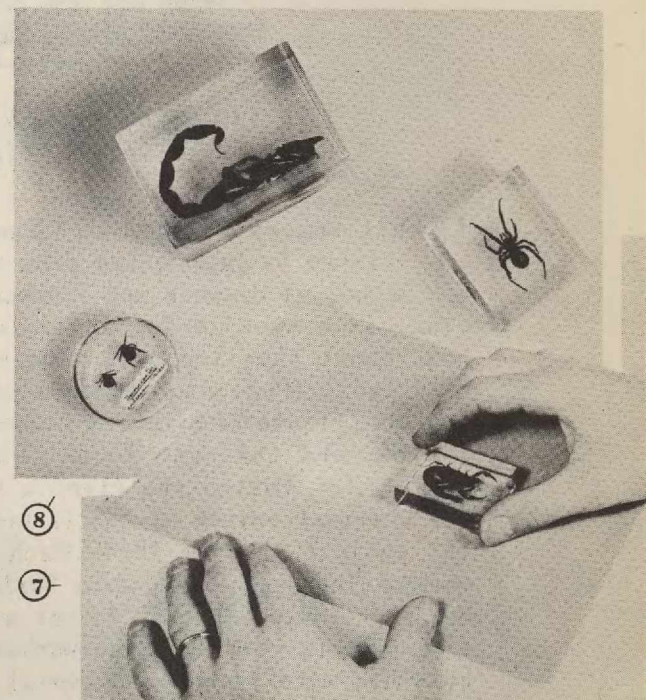
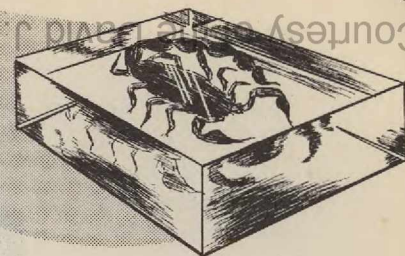
4. To the amount of plastic required to fill mold, add one to five drops of catalyst and stir thoroughly. After all of the bubbles have risen to the surface, the base layer (Step 5) is poured and the remaining catalyzed plastic is stored in a refrigerator to inhibit polymerization until the base layer has "set" at room temperature.

5. The base layer is poured into the mold to the depth indicated below by the top dark line in the picture and allowed to "set" at room temperature. The plastic containing the specimen is then catalyzed in the manner shown in Step 4. Specimen is lightly grasped with forceps and gently moved with a circular motion until specimen is surrounded by catalyzed plastic, then specimen is oriented in the mold and enough catalyzed plastic is poured in to completely cover it.

6. The mold is set aside until all the plastic has gelled at room temperature. It is then baked in an oven at 125 - 140° F. until the plastic has been completely cured. This is accomplished when the plastic becomes hard and readily separates from the glass mold. Higher curing temperatures cause air bubbles to form around the specimen, giving it an opaque silvery sheen.

7. After curing is complete, a thin soft layer of plastic will remain on the surface exposed to the air. This may be removed by sanding. The block is sanded first with coarse sandpaper (#1 or #2), and then with fine (00) sandpaper. It may be given a final polish with jewelers rouge or pumice on a soft cloth or buffing wheel.

8. Specimens ready for display.



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