

ing, which would probably be improved by the next method to be mentioned, were obtained with the beautiful pink *Limn odorum tuberosum*; the rich purplish rose of *Rhexia virginica*; the delicate pink of *Pogonia ophioglossoides*; the orange of *Hemerocallis fulva*; the rose pink of *Cydonia japonica*; pink Weigela; purple of Siberian iris; scarlet and pink roses; various colors of *Dianthus*; a purplish red Azalea; light blue violet.

All the above results were obtained by simply covering the flower on a plain cardboard, 4 × 6 inch, with overlapping strips of Scotch cellulose tape pressed smoothly and tightly. They were dried by placing between blotting papers in a pack of cards and pressed merely by rubber bands. This makes the method available to any field man, for he can carry all his equipment in a small collecting bag, or his pockets.

The botanist desiring a larger herbarium specimen can also make up in the field a card of fresh specimens for color holding, and also for showing permanently the internal plant organs. A dissected flower or two mounted on the card does away forever with the necessity of relaxing and dissecting the herbarium specimens. Flowers mounted this way have the petals and floral organs spread out more or less perfectly and will not shrivel. The greens of the leaves are holding splendidly in the oldest mounts.

Some flowers apparently contain chemicals which react to the rubber glue on the tape. The African violet in a few minutes becomes perfectly colorless transparent, and shows all the veins in the petals. *Sisyrinchium graminoides* also reacts immediately and becomes colorless. So also does the yellow Portulaca, except for the brighter orange center. I decided therefore to try another method, and covered the flower with a square of plain Cellophane, and sealed this down with the adhesive tape. The African violet, when not touched by the fingers, and the yellow portulaca then gave very successful results.

It is well known that *Baptisia tinctoria* turns black, but if the card is first covered with Dennison's transparent tape, and the flowers then mounted under the Scotch cellulose tape, and no pressing whatever administered, the color is held.

Now the method is also available to the entomologist for mounting leaf mines, and for extra evidence a miner larva, extracted and gently pressed, will be preserved beside its work.

Likewise, he can mount specimens of leaves showing typical injuries, and these cards mounted in a notebook can go into the library. In fact, my whole herbarium is in small notebooks, looseleaf, ten-cent binders.

In cases of aphids, scales, red spiders, lace-bugs, etc., the insect should be left right on the leaf where

it did its injury and the adhesive prevents its moving, so that it dies in position. The color of the injury and cause are present as permanent records, easily studied under a binocular.

To the economic entomologist the method carries peculiar advantage. In spraying operations it is often desirable to have a permanent record of the nature of the coverage of the poison. If this is visible on the leaf when mounted under the adhesive tape, it will always be there for proof. In this way standards of coverage could be worked out and a field man could carry a sample set of standard cards, to match up with field behavior.

The plant pathologist will find that the brilliant colors of diseased leaves hold color splendidly. He can take a flower head with smut and lay it gently on a card and seal it under the tape for a permanent specimen that will not endanger anything else. I have found no fungous growth under tightly sealed, quickly dried specimens. When the plant material is full of moisture it is of advantage to dry upside down under a lamp.

The criminologist may also find use for the system. Having in his pocket a pack of 4 × 6 cards and a few rolls of adhesive tape he can lay down on a card fragments of dust, ash, pieces of leaf, hairs, many other delicate little evidences and seal them for permanent evidence, always available for study under the microscope. Such materials mounted on the spot and attested on the spot by a second witness should have added value in court.

The method is also available for mounting of insect wings.

There are various thicknesses of Cellophane, and many specimens could be mounted under the tape on Cellophane cards and be available for study on both sides.

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## BOOKS RECEIVED

- GALDSTON, IAGO, Editor. *Medicine and Mankind*. Lectures to the laity delivered at the New York Academy of Medicine. Pp. vi + 217. Appleton-Century. \$2.00.
- IMPATIEFF, VLADIMIR N. *Catalytic Reactions at High Pressures and Temperatures*. Pp. xxii + 786. 56 figures. Macmillan. \$7.50.
- MUIR, JOHN M. *Geology of the Tampico Region, Mexico*. Pp. xix + 280. 40 figures. 15 plates. American Association of Petroleum Geologists, Tulsa, Okla. \$3.50 to members and associates. To others, \$4.50.
- PARSONS, WINIFRED. *The Circulation of the Blood*. Pp. xi + 204. 30 figures. Macmillan. \$1.75.
- SMITH, DAVID E. *Portraits of Eminent Mathematicians, Portfolio I*. Scripta Mathematica, New York. \$3.00.
- WILSON, DOUGLAS P. *Life of the Shore and Shallow Sea*. Pp. 150. 150 photographs. 1 colored plate. Ivor, Nicholson and Watson, London.