

FIG. 1. Sketches of filter assemblies utilizing three sizes of UF filters and three sizes of receiving tubes.

comparatively large volumes by wetting or adsorption—volumes which are held and not passed through to the receiver flask.

The all-glass filter assembly has been widely accepted in bacteriological and other scientific laboratories. There have been some difficulties with the apparatus, which is slightly top-heavy, as well as fragile, especially at the side arm and at the neck between filter and mantle. More serious, however, is its unadaptability for use with small quantities of fluids. Up to this time, only one size filter and flask combination has been available for all types of work. This model (Corning #3990) has a 40-mm filter disk, a 60-ml reservoir above it, and a 250-ml receiving flask. No other filters, flasks, bottles, or tubes have been available with the T-S 29/26 glass joint. The filter apparatus is unnecessarily cumbersome, and the receiving flask too large for many filtering procedures, such as sterilization of small volumes of sera, drug preparations, and antibiotics for *in vivo* testing or *in vitro* assay. The same problem exists in filter-sterilization of growth factors, amino acids, rare sugars, and other chemical solutions for microbiological nutrition work, when perhaps only 5–10-ml volumes are to be sterilized.

UF filters of 10-, 20-, and 30-mm size, holding corresponding volumes of 2, 15, and 30 ml, as well as the largest model (40 mm with a 60-ml volume), are available, but without the mantle and joint. We have found it practical to seal off T-S tubes to desired lengths to receive 5-, 10-, and 25-ml quantities, using the already available filter mantle. It has also been found practical to seal smaller filters on the available mantles from broken filters or on new mantles for use with small quantities of fluids (2–10 ml,<sup>2</sup> Fig. 1). With the round-bottom collecting tube as a base, the apparatus will not stand alone. In practice, we use a clamp and ring stand to hold it or place the whole apparatus in a small wire basket, with the side arm

<sup>2</sup> Prepared by Scientific Glass Blowing Co., Houston, Texas.

protruding through the wire mesh to fasten to the vacuum tubing.

An all-glass, chemically clean, sterilizing filter for small volumes of fluid has advantages of economy in original cost, smallness in size, ease of handling, and recovery of greater amounts of the original fluid following filtration.

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## Rare Yucca

SEVERAL years ago R. B. Corey and I announced the discovery of a bifurcated hydrogen bond in the crystal structure of the amino acid glycine (*J. Am. Chem. Soc.*, 61, 1087 [1939]). Now I wish to announce that a bifurcated yucca (*Yucca Whipplei*) has been discovered at Chilao Flat in the San Gabriel Mountains near Los Angeles, at an altitude of 5300 feet. Mrs. Thomas, of the Loomis Ranch, discovered the freak yucca last spring, and I photographed it (Fig. 1).

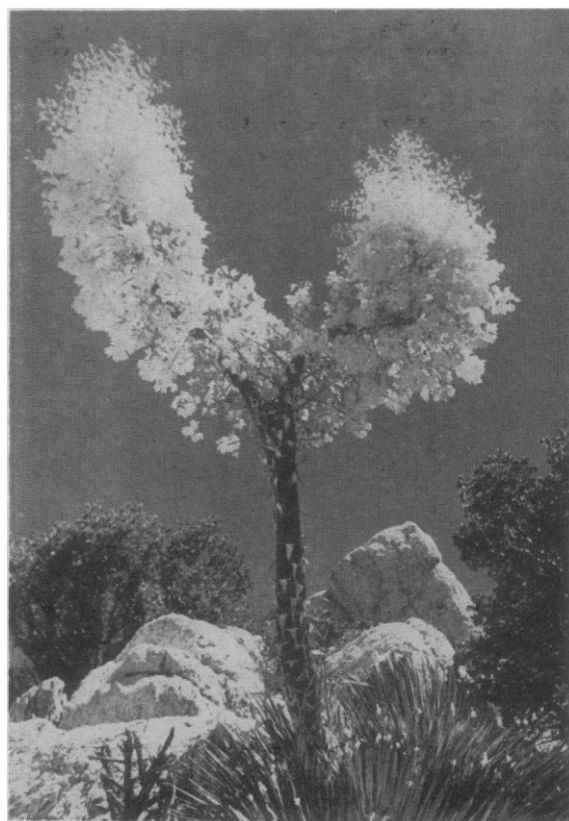


FIG. 1. Rare aberration of *Yucca Whipplei*, Chilao Flat, Los Angeles Co., Calif.

I would be glad to send seeds, sections, and more information on the plant to interested botanists. (I seriously doubt that there is any connection between bifurcated hydrogen bonds and bifurcated yuccas.)

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