position of the cement. The raw materials including tools are easily obtained, the cost is very small and the device is easily made. It has been used with satisfactory results in this laboratory for the past year and it is hoped that it will be of service to others in ringing slides by this method.

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PRESERVATION OF SMALL AMPHIBIA IN GELATIN[1]

IT is difficult to retain the natural colors and appearance of frogs and salamanders by preserving the specimen simply in formalin or alcohol. The use of tubes of gelatin, described below, overcomes this difficulty and also makes a handy mount for identification purposes in the classroom. The gelatin mixture is a clear medium through which the external features of the specimen are clearly visible. Several successive stages in the life cycle of a given species may be replaced conveniently in one tube.

Procedure: The live specimen is killed and placed at once in 20 per cent. formalin. A slit in the abdomen of the larger specimens may be made to permit more ready penetration. After remaining in the formalin over night, the specimen is removed and washed in tap water eight hours. It is next placed in Kahle's fixative over night, then washed in running tap water ten hours. Kahle's fixative is:

95 per cent. alcohol	15 parts
40 per cent. formalin	6 "
Glacial acetic acid	2 "
Distilled water	30 "

Test-tubes of from 15 to 50 cc capacity are used, depending on the size of the specimen. The mounting medium is made as follows, using Difco Standardized Bacto Gelatin:

10 grams of purified gelatin
36 drops of formalin (40 per cent.)
100 grams of water.

Heat the water to boiling, add the gelatin and allow to dissolve. Add the formalin just before pouring the mixture into the tubes. In some cases good results are obtained by adding the formalin after the gelatin has been poured into the tubes and mixing thoroughly. When the tube feels moderately warm to the hand, place the specimen in the medium in the desired position, with tweezers, etc. Further cooling will stiffen the gelatin sufficiently to hold the specimen in position. After the specimen is satisfactorily oriented, the tube may be placed in a refrigerator to hasten gelation.

The tubes are later sealed with a mixture of equal parts of Parowax and sealing wax, and should be placed in a vertical position in a rack for safe storage.

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SPECIAL ARTICLES

TRANSMISSION OF INFLUENZA BY A FILTERABLE VIRUS

THE studies of Shope[1] on swine influenza established the fact that a filterable virus is the essential factor in the production and transmission of the disease. In 1933, Smith, Andrewes and Laidlaw[2] reported that the intranasal inoculation of ferrets with nasal or pharyngeal washings from human cases of epidemic influenza produced a disease in those animals characterized by fever and catarrhal swelling of the nasal mucous membranes, but without detectable pathological lesions in the viscera. They were able to transfer the disease in ferrets by the intranasal inoculation of suspensions of the ground turbinate bones. The causative agent was found to be a filterable virus. The animals invariably recovered from the disease, and the serum of a recovered animal was found to neutralize the action of the virus. They were also able to produce a similar disease in ferrets with the virus of swine influenza. Shope[3] was able to confirm their observations on the infectivity of the virus of swine influenza for ferrets. He observed, however, that when the ferrets were inoculated intranasally under light ether anesthesia, pulmonary consolidation was an invariable accompaniment of the disease, the infection was more severe, and death of the animal sometimes occurred. Suspensions of the lungs of infected animals were found to contain a high concentration of the virus.

Last winter a number of ferrets were inoculated in this laboratory with material from various respiratory infections, including common colds, acute tonsilitis, lobar pneumonia, psittacosis and two cases of clinical influenza. In only one instance, and that distinctly of bacterial origin, was infection established in the ferret.

During the latter part of August and September of 1934, an epidemic of respiratory infection occurred in Puerto Rico. In its clinical course it appeared to be typical epidemic influenza, although the mortality was low. On September 10, 1934, through the kindness of Drs. W. C. Earle and W. A. Sawyer, of the

[1] The basis of this method was obtained from C. W. Eagleson's article in Scientific Notes, *Jour. Econ. Ent.*, Vol. 25, p. 936.

[1] Richard E. Shope, *Jour. Exp. Med.*, 54: 373, 1931.

[2] W. Smith, C. H. Andrewes and P. P. Laidlaw, *Lancet*, 2: 66, 1933.

[3] Richard E. Shope, *Jour. Exp. Med.*, 60: 49, 1934.