

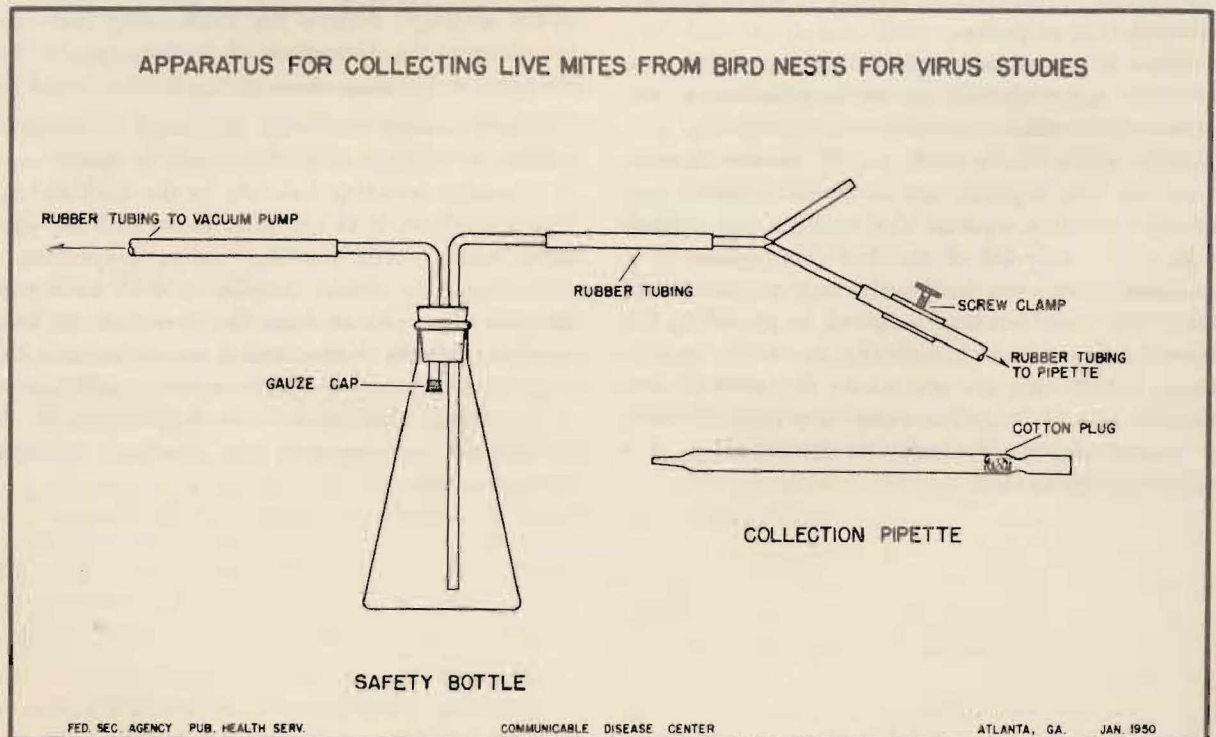
# Collecting Large Numbers of Live Mites from Bird Nests for Virus Studies

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A. For the past few years interest has been focused on the mites of domestic and wild birds (particularly species of *Dermanyssus* and *Liponyssus*) as potential vectors of both the St. Louis and Western equine encephalitis types of viruses. In order to test such mites for virus infection, it is necessary to obtain adequate samples of living material either from the bird nests, or from nestling birds themselves. The method described below was developed for the purpose of obtaining such samples with a minimum of effort and loss of mites.

B. The apparatus, in essence, consists of a vacuum pump connected, by means of rubber tubing through a "safety bottle," with one or two collecting pipettes. The "safety bottle," the purpose of which is to intercept any large particles drawn by accident through the system before they reach the pump, is an ordinary 500-cubic centimeter flask. This is furnished with a two-hole rubber stopper, through which extends an exhaust tube leading to the pump, as well as an intake tube to which the collecting pipettes are connected. These tubes are



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of 3/8-inch glass tubing bent at right angles a short distance above the stopper. The end of the exhaust tube which extends into the bottle is covered with a small square of cotton gauze, fastened by thread.

Collecting pipettes are made from 1/4-inch soft glass tubing. They are first drawn as ordinary Pasteur pipettes, and the points are broken off relatively short. Cotton plugs are inserted about 1 inch from the wide-open ends. Tubes then are heated between the cotton plug and the wide-open end and are drawn sufficiently to hold the plug in place when vacuum is applied. The pipettes are connected to the vacuum system by rubber tubing of any desired length. Screw clamps may be attached to the rubber tubing in order to control the flow of air through the pipettes. If clamps are used, or if two persons must collect at the same time, a glass Y-joint may be placed between the "safety bottle" and the pipette attachments.

C. Nests usually are collected just before, or as soon as possible after, they are vacated by the young birds, since we have found that the mite population is then at a maximum. The nests are

placed in large paper sacks, the open ends of which are folded over several times and then carefully stapled. In the laboratory, the individual sacks are held in white enamel pans and are kept separated from each other by water barriers. This is to prevent the mites in one nest from contaminating another nest, since, in spite of all precautions, they are usually capable of escaping from the sacks.

D. In collecting, the mites are counted as they are drawn into the pipette. When the desired sample is obtained, the pipette is detached from the vacuum system. Both ends of the tube then are sealed off in a flame, the tube is labeled, and finally placed in a dry-ice box, where it is held frozen until time for inoculation.

E. Whenever possible, 1,000 mites are collected from each nest. However, since inoculation pools are limited to 250 mites each, four collecting pipettes are used for each heavily infested nest.

F. Additional specimens of mites from the same nests should be preserved in alcohol for later identification. It has been our policy to collect for identification purposes, a number equivalent to 10 percent of the frozen sample.

## *Missouri River Basin Health Council*

The Missouri River Basin Health Council was organized approximately 2 years ago to plan and prosecute health programs associated with the Land and Water Resources Development Program of the Basin.

The Council was established by the State health departments of Colorado, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, South Dakota, and Wyoming. It is composed of the State health officer and the State sanitary engineer of each of the 10 States. The Engineering Section of the Council is composed of the respective State sanitary engineers.

In the organization agreement, the Council said that the Missouri River Basin is "entering a phase of development of its natural resources that is of

paramount importance to the States, communities and industries located in the Basin from the standpoint of health, water supply, industrial waste disposal, sewage disposal, recreation, irrigation, power and flood control."

The Council agreed to cooperate with the Public Health Service and other agencies involved in carrying out a policy for the protection and improvement of the waters of the Basin. The Chairman of the Council is W. S. Petty, M.D., Nebraska State Board of Health. The Secretary is Mr. L. E. Ordelle, Director of the Bureau of Environmental Sanitation, State Division of Health for Missouri. Mr. Ordelle is also the Chairman of the Engineering Section of the Council.