

sult in some saving of time in preparation. The biologist who makes few skins will make better skins by using this method (Fig. 2).

The balsa wood may be purchased from hobby stores at a cost of one to three cents per body form, depending upon the size of the specimen. It is probably not practical for animals larger than a chipmunk, but the problem of breakage is not so acute in these specimens. It is especially useful for the small shrews whose skins are often very delicate.

Balsa wood will probably never supplant cotton as a material for stuffing mammals. It is, however, a useful substitute when well-made and durable specimens are of primary importance.

### DR. JULIAN HUXLEY WINS KALINGE AWARD

Dr. Julian S. Huxley was awarded the Kalinge Prize for distinguished popular writing in science recently during a ceremony at Unesco House in Paris. This annual award was established in 1951 as a gift to Unesco from Mr. B. Patnaik, distinguished industrialist from India, and includes a cash grant this year of over \$2800. In establishing the prize, Mr. Patnaik said, "I am convinced of the necessity of making the great masses aware of the methods and achievements of scientific research, and to make them understand the impact of science on our daily behavior."



Dr. Huxley is the grandson of biologist Thomas Huxley, 19th century proponent of Darwin. He is the world-famous author of many popular life science books and articles, including *Essays of a Biologist* and *Man in the Modern World*, and is also well-known for his prize-winning film, "The Private Life of the Gannett," and his radio series on "Scientific Research and Social Needs." Dr. Huxley left in September for Australia, will spend a week on The Great Barrier Reef, attend the Pacific Science Congress at Manila, and then travel to Java and Thailand. After attending the Indian Science Congress, he will spend several months in India.

### Food-Chain Culture of *Daphnia*

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There is a need for easier methods of keeping alive more kinds of laboratory animals. The usual published methods are too exacting to be followed by most of us. The animals may each be used for only a week or two during the year as laboratory specimens in a course, but we realize the educational value of having them continually available to the students. The amount of work involved in maintaining such cultures by the usual procedures, suited to research, is generally prohibitive.

For example, previous methods of culturing *Cladocera* generally require either careful preparation of food, or rather frequent transfer to fresh cultures, or both, and almost daily observations to see that all is well. Artificial aeration is also recommended in some cases. When so much care is required, these animals, excellent for instruction purposes, are omitted for most courses, or inferior preserved specimens are used.

This paper tells of an attempt to provide a new method for maintaining *Daphnia* with the least possible labor.

We have kept *Daphnia* in gallon pickle-jars and two-gallon rectangular aquariums. Each was supplied with aged tapwater, a small *Elodea* plant left floating, and a few *Planorbis* snails, the so-called Japanese ramshorns of tropical fish fanciers. The only materials added were small amounts of fish food one to three times a week, but not regularly, and more aged tap-water every two to

three weeks to offset evaporation. The fish food was the fine size of Reliance Tropical Fish Food from the Reliance Products Company, Montclair, New Jersey. Stirring the water briefly with a finger caused about a third of the food to settle. If any of the food remained on the surface the following day, it was skimmed off, and the ration reduced.

Temperatures much above 70° F. proved harmful; 55° to 60° F. were very satisfactory. After the snails had occupied a jar about two weeks, long enough to have produced a slight accumulation of excreta, the *Daphnia* were introduced. The food-chain was then: fish-food—snails—bacteria, living on snail excreta—*Daphnia*.

The *Daphnia* environment was thus fairly natural and uniform, and almost self maintaining. Only small numbers of young were produced. For this reason, there was seldom any need of transferring to a new jar, certainly not more often than three times a year. Labor saving methods of maintaining other laboratory animals should be useful to instructors in zoology.

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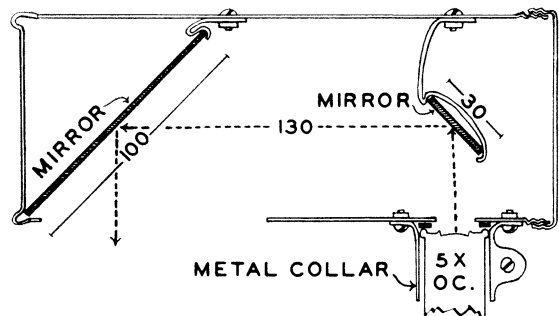
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## An Easily Constructed Microprojector for Drawing Purposes

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It is easier for the average person to make exact scale drawings by tracing a projected image than to use a camera lucida, an instrument particularly inconvenient for left-handed people. A 45° angle microprojection prism on a horizontal microscope will permit vertical projection onto drawing paper, but specimens temporarily mounted in fluids cannot be so projected.

The simple microprojector described here was designed for use on a vertical microscope. Direct planimeter measurements of small objects, such as nematode larvae, can be made without making dimension marks which have to be measured later. The device uses the periscopic principle to reflect the image horizontally and then downward onto the top of the table, by means of two war surplus front-silvered mirrors which cost less than \$1.00. When using a 5× ocular, the microprojector will give magnifications of approximately 100×, 200×, and 430×, with 10×, 20×, and 44× objectives, respectively. Raising the draw tube or changing the projection distance will vary the image size. By rotating the draw tube, the instrument can be turned to permit drawings to be made by right- or left-handed persons. For small group demonstrations, the screw cap of the mailing tube mirror housing can be removed and the smaller mirror turned around to project the image horizontally onto a large ground glass or small motion picture



A simple microprojector made from two front-silvered mirrors and a metal mailing tube can be used for drawing or measuring at table level.

screen. This makes a satisfactory substitute for a more expensive microprojection prism.

The diagram shows approximate dimensions in millimeters. When using the indicated mirror sizes and a 5× ocular, the entire visual field of the microscope will be projected. A 10× ocular can be used for greater magnification, but the outer portion of the field will be lost unless the larger mirror measures at least 80×140 mm. Bent strips of metal are used to support the mirrors at a 45° angle over two holes at the ends on the lower side of the horizontal tube. The reflecting surfaces of the mirrors face each other at a minimum distance of 130 mm. At this distance the image will not fall on the edge of the microscope stage. The larger mirror