

15 days. This together with the hatching period of 10 days gives a life history of 25 days from egg to adult for this reared brood.

Eggs obtained from this laboratory-reared generation were reared without any significant variation in life history. It would appear that a species with such a short period of development must produce several generations a year. Plants examined in the field as checks showed that *Corythucha morrilli* has a long reproductive season and that the species builds up large populations. Adults remained alive in the laboratory for as long as twenty-nine days, continuing to lay eggs throughout this time.

Determination is through the kindness of Dr. R. L. Usinger.

An Easy Way to Make Entomological Drawings

By GEORGE C. STEYSKAL, Grosse Ile, Michigan

Many a worker has shied away from illustrating a part, complex genitalia, wing venation, etc., because of lack of artistic skill or a fancied difficulty of drawing objects under the binocular microscope. At its best the camera lucida is cumbersome, especially when used with the binocular. The lighting is critical, the drawing plane must be carefully adjusted and firmly fixed in one position, the size of the drawing is difficult to control, and the instrument is costly.

Many workers use another method which obviates all these disadvantages and is possibly even more accurate. This method may be called the ocular grid method since it involves the use of a cross-ruled reticle inserted in one eyepiece of the microscope. Such a reticle costs less than ten dollars and a good substitute may even be made at practically no cost by ruling a piece of cellulose acetate or plexiglas or other plastic with very fine lines scratched into the material with a sharp pointed metal tool held in a toolmaker's height gage or laid on a planer gage or gage blocks. The scribing tool is brought alongside the plastic held firmly on a square object so that it may be turned 90°. The scribe and the measuring tool on which it is held

are slid across a smooth surface and very light pressure applied to the scribe against the plastic. A convenient distance to space the lines is 0.025 inch. A bacteria counting reticle is also serviceable.

The reticle is placed face down inside the eyepiece on a ledge that is provided for the purpose. It provides a screen of fine lines in the field. If the ledge is properly located, the lines should be sharply in focus. If not, try interchanging the top and bottom lenses of the eyepiece—they may have been wrongly assembled after cleaning—or move the ledge to its correct position. If the latter is not feasible the reticle may be blocked up with bits of plastic cemented around the edge of the reticle. The reticle does not interfere with examination of specimens and may even be left in the ocular if its presence is not found too annoying since it is also convenient for making comparative measurements.

The drawing is made on graph paper with an ordinary soft pencil. I use an easily obtainable paper ruled five squares to the inch with pale green lines. The outlines of the object are easy to duplicate by following them through the squares and drawing lines in corresponding squares on the paper.

By ruling off sets of two, three or more squares on the paper drawings may be made to various scales. For example, if the object is ten squares long the drawing may be made two inches long (two times five squares) by letting one square of the paper equal one square of the grid, or it may be made four inches long by making four squares of the paper equal one square of the grid and ruling the paper accordingly.

To transfer the drawing to the paper on which the final ink drawing is to be made (I use three-ply Strathmoor bristol board), I blacken the back of the graph paper with a very soft lead pencil, such as Eberhard Faber's No. 6325 Ebony, and trace the drawing with the carbon paper thus made onto the bristol board with a mimeograph stylus or a plain nail with the point buffed smooth. If it is desired to reverse a drawing it may be laid face down on the ink board and traced or rubbed from the back. The use of a soft pencil in drawing assists at this point.

The drawing may be sketched directly on the bristol board by lightly ruling the board with suitable squares, but I consider the use of graph paper more advisable for a number of reasons. Firstly, when the transfer method is used very little erasing is necessary on the ink drawing while unlimited erasing may be done on the graph paper. Secondly, notes may be made on the sketch without worrying about having to remove them. Thirdly, should something happen to the ink drawing another can be made from the sketch on the graph paper.

I have made full plate drawings by the method outlined above in three hours. I hope that its use may result in lightening entomological labors and provide more illustrations.

Aural Myiasis by *Musca vicina* (Dipt.)

By JOHN W. H. REHN, Academy of Natural Sciences of
Philadelphia

Many cases of accidental myiasis, including infestations of the ear, due to *Musca vicina* or *M. domestica* have been recorded. However, in most recorded instances it appears that the larvae have attacked only diseased tissues¹ while in the case here considered no diseased or traumatic condition was observed.

At Gaya, Eritrea in September 1942 a single mature larva of *Musca vicina* was removed from the external meatus of a Sudanese laborer. The ear was not injured in any way but did contain a considerable quantity of wax. The laborer when he reported at a dispensary stated that he had been having an ear ache for four days. The larva was removed and the laborer returned to work. Some hours later he was questioned regarding the ear ache and stated that it had disappeared shortly after the removal of the larva.

It would seem probable that the larva had entered the external meatus when the laborer was either asleep or lying on the ground. In the general area fly breeding was abundant at this time. Whether the larva had actually undergone any development in the ear is not known.

¹ JAMES, M. T., The Flies That Cause Myiasis in Man, U. S. Dept. Agr. Misc. Pub. No. 631, p. 141 (1947).



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