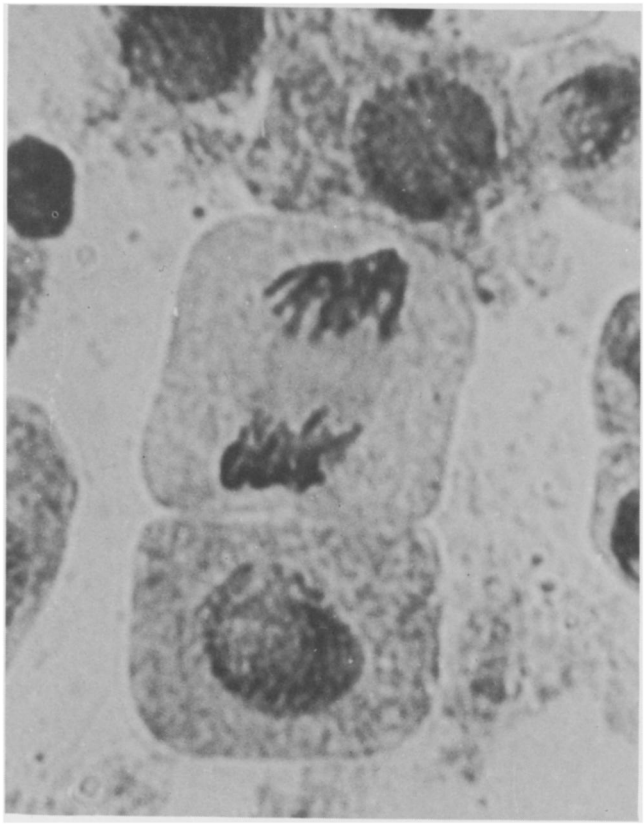

Fig. 4. Three cells in metaphase; polar view at bottom. × 500.

paper towel on a hard surface and squash firmly with your thumb. Or squashing can be accomplished with a pencil: while the slide is on a hard surface, place the eraser end on the cover slip directly above the root tip and press firmly straight down.

6. Clean the stain from the slide and the cover slip and examine under low power for embryonic cells. They appear square (see fig.). Once the cells are located, switch to high power. If cells are stained too darkly, the stain can be diluted by placing one or two drops of water at one edge of the cover slip and a paper towel at the opposite edge. Repeat this until the stained portions of the cells reach the desired contrast.

7. A light coat of fingernail polish or paraffin around the edges of the cover slip will prevent the squash from drying, for several hours. It should be noted, however, that this sealing will interfere with making the squash into a permanent mount.

Permanent Slides

If squashes of particularly excellent quality are obtained, they can be turned into permanent slides in the following manner:

1. Place the slide on a piece of dry ice for about one minute. As the squash freezes, pry off the cover slip with a razor blade. An alternate method for removing the cover slip involves immersing the slide into a 1:1 solution of acetic alcohol (Stopyra, 1969); however, this method has proven to be only partly successful, because the squash frequently washes off of the slide or remains partly attached to the cover slip.

2. After removing the cover slip, immerse the slide containing the squash for two or three minutes in absolute ethyl alcohol.

3. Change the alcohol and allow the slide to remain immersed for an additional two or three minutes. (The use of certain mounting media requires an additional bath, for three minutes, in toluene; see manufacturer's directions.)

4. Remove the slide from the alcohol and, before the squash dries, place a drop of mounting medium on the squash. Cover the squash with a clean cover slip.

Regardless of the mounting medium used, allow the slides to remain flat until the medium hardens; 24 hours is usually long enough. Once the medium hardens, clean the excess medium from the slides and store the slides on their edges in a slide box.

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Hormonal Control of Insects

The search for a way of controlling insects without resorting to methods harmful to the environment will be enlarged under a National Science Foundation grant of $70,000 to a Northwestern University biologist.

The grant, to Lawrence I. Gilbert, will support a two-year study aimed at providing scientists with a piece of the puzzle, the whole answer to which may permit control of the growth of certain insects by treating them with synthetic versions of two hormones known to regulate their development.

As substitutes for DDT and other chemical means for deterring the proliferation of insect pests, hormones are believed to have two highly advantageous features. Whereas insects tend to develop an immunity to chemical pesticides, it has been suggested that they would not be able to form resistance to their own hormones, Gilbert said. In addition, he added, there is as yet no evidence that the two insect hormones to be studied have harmful effects on vertebrates.