Bearing a date a month earlier than the above work by Blatchley, but received nearly a month later, comes this volume, a magnificient treatise on the orthopterous insects of New England. An introduction to the literature of New England Orthoptera is given and the anatomy and biology of this group of insects are discussed at some length. The distribution of the species within the region covered is considered and there are several pages devoted to a consideraton of the economic relations of the Order, including discussions of parasites and other enemies. Collecting and preserving are fully treated and there are keys to genera and species and higher groups. Under each family are notes on habits, etc., and under each species are references to the more important literature on the species and its synonyms. There are also notes on occurrence and, usually, brief descriptions. One hundred and thirty-two species are recorded, sixteen of which are considered adventive. There is no bibliography of works cited. The structural details of a large proportion of the forms treated are figured, and many are more fully illustrated, some in colors. There are also a number of reproduced photographs showing certain characteristic habitats of Orthoptera. Three colored plates and a few other illustrations are original, but most of the figures are reproduced from previously published works. An accented list of scientific names, a glossary, and an index conclude this most excellent manual.

A. N. Caudell

Bureau of Entomology,
U. S. Dept. of Agriculture

## SPECIAL ARTICLES

### A STAND FOR THE BARBOUR MICRODISSECTION APPARATUS

The following is a description of a stand devised by the writer and Mr. F. H. J. Newton, mechanician at Wesleyan University, for use with the Barbour microdissection apparatus. The dissecting apparatus was also made by Mr. Newton, who reproduced with slight modifications, in part suggested by Dr. Robert Chambers, the two-needle model formerly made in the Fowler shops of the University of Kansas.

The principal advantage of the stand as previously stated by Dr. Chambers[1] is that the dissecting apparatus is attached to a shelf independent of the microscope and consequently the latter may be shifted to various positions with reference to the dissecting apparatus. Also another microscope or binocular microscope may readily be substituted without the necessity of the assistance of a machinist to construct a shelf on each microscope used.

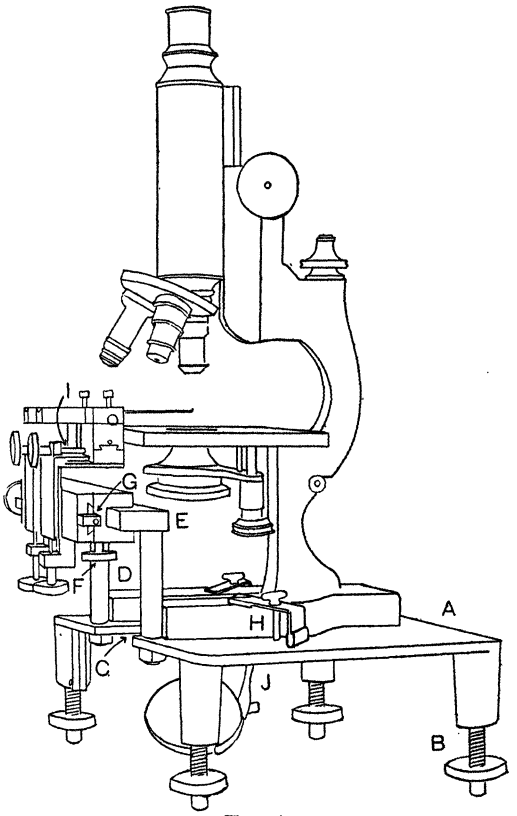


Fig. 1.

The drawing here shown omits for simplicity certain details of the dissecting apparatus as it has been figured elsewhere.[1] The thumb screw on the right side which is at-

[1] Chambers, R., *Biological Bulletin*, Vol. 34, 1918.

tached at *G* is omitted from the drawing in order to show parts otherwise concealed.

The essential parts are the platform and shelf. The platform, *A*, which measures 9½ by 7 inches is supported on legs having leveling screws, *B*, and has a portion cut out, *C*, on the longer side similar in form to the open space between the sides of the horseshoe base of a microscope. This opening is to admit light from an ordinary microscope mirror suspended beneath the stand by a jointed arm, *J*, allowing lateral motion and which is in turn attached to a horizontal rod sliding back and forward in a tube on the under surface of the platform. On the front edge of the platform bridging the light opening is the shelf, *E*, supported by two pillars, *D*. The dissecting apparatus is clamped to this shelf by the screw, *F*. The microscope may be firmly secured to the platform by the clamps, *H*, and holes are drilled in the platform to accommodate various positions of the microscope, but frequently the use of the clamps is unnecessary.

Dr. Chambers has suggested that I call attention to a useful improvement of his own dissecting apparatus introduced by E. A. Thompson, of Amherst, Mass. Fine springs placed around the screws which move the needle carriage as at *I* in the figure prevent lost motion and thus steady the initial motion of the needle which is a marked advantage in the finer work.

H. B. GOODRICH

WESLEYAN UNIVERSITY

## GASTRIC RESPONSE TO FOODS[1]

### IX. THE INFLUENCE OF WORRY ON GASTRIC DIGESTION

THE study of the influence of emotional strain on digestion in man offers some difficulties due to the fact that the emotions can not be readily controlled, nor are the subjects of extreme emotion readily amenable to experimentation. We were, however, able to obtain an interesting illustration of the profound effect of mental anxiety on gastric digestion in the case of a first-year medical student who had previously served as a subject of gastric tests and whose stomach had been found entirely normal. This man was given one hundred grams of fried chicken on the morning of an important examination in chemistry, and was asked to write out his answers during the course of the test. He was plainly worried over the outcome of the examination and of his year's work. The resultant effect upon gastric digestion in prolonging evacuation for over two hours, with high intra-gastric acidity is charted in the figure. The same chart gives the normal

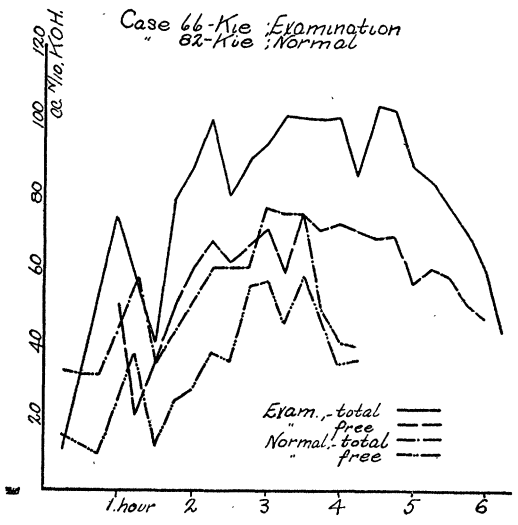


FIG. 1.

digestion curve for fried chicken on this subject as obtained a week later under the best mental conditions.

The experiments were carried out by withdrawing samples from the stomach of the subject with the Rehfuss stomach tube at fifteen-minute intervals until the stomach was empty. The specimens were analyzed for total acidity and free hydrochloric acid and results expressed as c.c. of N/10 alkali required to neutralize 100 c.c. of sample.[2]

[1] The expenses of this investigation were defrayed by funds furnished by Mrs. M. H. Henderson.

[2] Fishback, Smith, Bergeim, Lichtenthaeler, Rehfuss and Hawk, *Am. Jour. Physiol.*, 1919, XLIX., 174, and later communications.