

FIG. 5(b). The number of pupils, reporting themselves as expecting *not* to complete the course, who leave in each successive year.

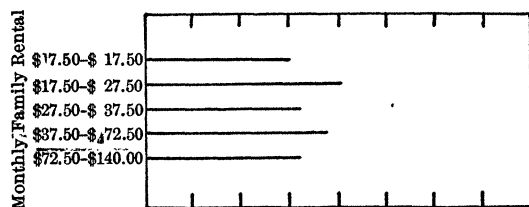


FIG. 6. The median expectation of length of stay in high school for pupils according to the family's monthly expense for rental.

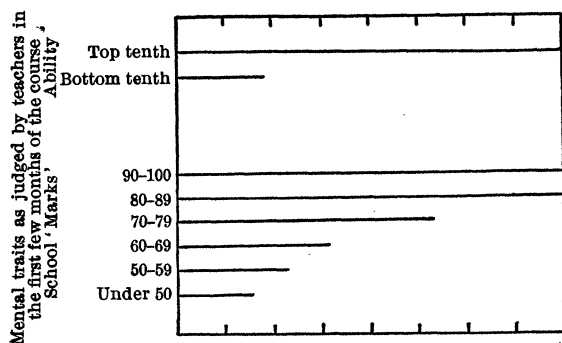


FIG. 7. The median expectation of length of stay in high school of pupils who during the first term were rated by their teachers as shown at the left of the diagram.

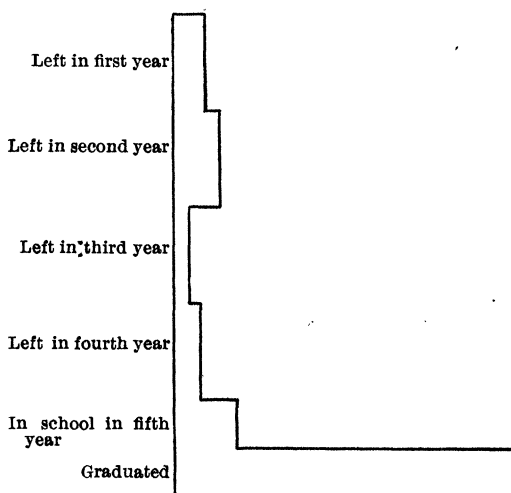


FIG. 8(a). The number of pupils, ranked in the top tenth for ability, who leave in each successive year.

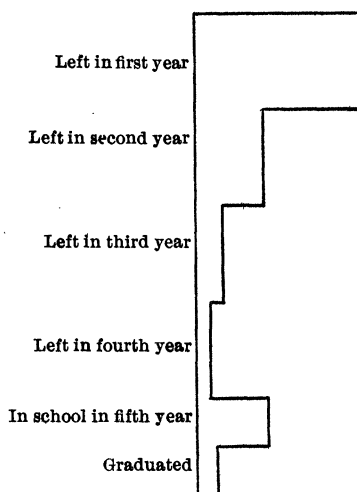


FIG. 8(b). The number of pupils, ranked in the bottom tenth for ability, who leave in each successive year.

SPECIAL ARTICLES

A WILD HOST-PLANT OF THE BOLL-WEEVIL IN ARIZONA

As cultivated cotton is the only plant thus far known to harbor the boll-weevil, the existence of another host-plant of these destructive insects may be worthy of notice. The plant

in question is not very well known, even from the botanical standpoint. It was described from Sonora by Asa Gray in 1855 as *Thurberia thespesioides*, and has also been identified with another Mexican species published in 1824 under the name *Ingenhouzia triloba*. But this generic name was preoccupied, an East Indian plant of another family having been named in honor of Ingenhousz in 1818. Nor is it certain that the Mexican *Ingenhouzia triloba* represented the same species that grows in Arizona. The flowers of the latter are white, while those of the Mexican species are described as yellow.

It is true that the characters supposed by Gray and Bentham to be of generic importance do not serve to distinguish *Thurberia* from *Gossypium*. The cells of the capsule show the same numbers, 3 or 4, as in many kinds of cotton, and some kinds of cotton imitate *Thurberia* in having a row of hairs on the inside of the carpel. But *Thurberia* offers more essential differences in the simple involucre bracts, the expanded corolla, and the absence of lint from the seeds, which are covered only with a thin, short fuzz. In view of these facts Gray's name may be retained.

Some attention has been given to *Thurberia* for the last three or four years in connection with the cotton-breeding work of the Department of Agriculture, because it seemed to be the nearest relative of the genus *Gossypium*. In external appearance and general behavior it is closely similar to some of the shrubby perennial types of cotton. The leaves are narrow and deeply divided like those of the so-called "okra" varieties of Upland cotton.

Until the present season the study of *Thurberia* has been limited to greenhouse and garden plants. The desirability of observing the habits and variations of the species in the wild state has been recognized, but all the localities where the plant was formerly known to exist were rather inaccessible. New localities on the slopes of the Santa Catalina Mountains not far from Tucson, Arizona, have been discovered recently by Professors Geo. F. Freeman and J. J. Thornber, of the University of Arizona, and one of these localities was visited a few weeks ago through the courtesy of Mr.

Harold Bell Wright, who is a collaborator in the breeding work of the Bureau of Plant Industry. In a small canyon about two dozen large shrubby plants of *Thurberia* were found. Some of them might even be described as small trees, attaining a height of 10 feet, with hard woody trunks an inch in diameter. Six definite rings of annual growth are shown on one specimen.

The presence of punctures like those made by the boll-weevil on some of the seed capsules led to further search for the cause of the injury. At first only a few larvæ or pupæ could be found, embedded among the seeds of the nearly mature capsules, but finally a capsule containing an adult weevil was discovered by Mr. Wright. As all the plants had passed the flowering stage there was no means of learning whether the insect breeds in the floral buds as well as in the seed capsules, but it seems to be a habit of *Thurberia* to flower and fruit for only a short time in September and October. This habit of fruiting would not allow more than one or two broods of weevils to develop in each season.

Cotton is much more susceptible to weevil injury because it produces buds and bolls through a much longer period, thus providing facilities for breeding several generations of weevils. The fact that *Thurberia* is so much better adapted to escape serious injury may mean that it is the original host of the boll-weevil. Otherwise the infestation of *Thurberia* at Tucson must be explained by reference to prehistoric cotton cultures, which might have brought the weevil in from Mexico. The Pima Indians of Central Arizona cultivated an indigenous variety of cotton until a few decades ago, and the Hopi Indians of New Mexico still raise a little of their native cotton for ceremonial purposes. That the weevils in the Santa Catalina Mountains represent a recent importation from Texas seems altogether improbable.

As no cotton is now grown in the region of Tucson, the existence of weevils in the wild *Thurberia* is of no direct agricultural interest. But it is obviously desirable to know more of the habits and distribution of *Thurberia* in Arizona and adjacent states. A rapid exten-

sion of cotton culture is now going on in the Salt River Valley and other irrigated districts of Arizona and may bring the crop within the range of the native weevils.

O. F. COOK

BUREAU OF PLANT INDUSTRY,
U. S. DEPARTMENT OF AGRICULTURE,
December 18, 1912

THE AMERICAN SOCIETY OF ZOOLOGISTS

THE Eastern and Central Branches of the American Society of Zoologists met in joint session at Western Reserve University, Cleveland, Ohio, December 30 and 31, 1912, and January 1, 1913, in conjunction with the American Association for the Advancement of Science and the American Society of Naturalists.

The following officers of the Eastern Branch were elected for the year 1913:

President—Raymond Pearl, Maine Agricultural Experiment Station, Orono, Me.

Vice-president—Alexander Petrunkevitch, Yale University, New Haven, Conn.

Secretary-treasurer—Caswell Grave, Johns Hopkins University, Baltimore, Md.

Additional Member of the Executive Committee—C. E. McClung University of Pennsylvania, Philadelphia, Pa.

These officers, in addition to R. G. Harrison (elected at the Ithaca meeting in 1910) and H. E. Jordan (elected at the Princeton meeting in 1911), will constitute the executive committee of the Eastern Branch for the ensuing year.

The present officers of the Central Branch continue until the next meeting of this branch.

The president of the society as a whole until the next joint meeting is Henry B. Ward, University of Illinois, Urbana, Ill.

The following persons were elected to membership in the American Society of Zoologists:

Eastern Branch—Ethel N. Browne, Princeton University; Esther F. Byrnes, Brooklyn High School for Girls; Wayland M. Chester; C. G. Crampton, Massachusetts Agricultural College; Edward C. Day; Alfred O. Gross, Bowdoin College; E. Newton Harvey, Princeton University; Davenport Hooker, Yale University; Otto F. Kampmeier, University of Pittsburgh; Henry Laurens, Yale University; Samuel C. Palmer; Edward E. Wildman, West Philadelphia High School.

Central Branch—Alexander MacGillivray, Cornell University; Gideon S. Dodds, University of

Missouri; George A. Baitzell, Central College; W. C. Allee, University of Illinois; Aute Richards, University of Texas; Bertram G. Smith, State Normal School, Ypsilanti, Mich.; William Scott, University of Indiana; W. A. Willard, University of Nebraska; Addison Gulick, University of Missouri; Robert K. Nabours, Kansas Agricultural College; Mary T. Harmon, Kansas Agricultural College.

Elected to honorary membership, in recognition of his services to American zoology, Honorable James Bryce, British Ambassador to the United States.

Professor Nutting reported that the committee on zoological nomenclature, appointed by the Central Branch at its last meeting, had published its report in *SCIENCE*, December 13, 1912. The report was approved.

Professor S. A. Williston was elected a delegate at large to the Eighth International Zoological Congress at Monaco and requested to present the above report to the congress. The executive committee of the society was authorized to appoint an alternate.

The report of the treasurer of the Eastern Branch was presented as follows:

Receipts

Investments:

From Raymond Pearl, Certificate of Stock No. 11,865 Industrial Savings and Loan Co	\$150.00
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Current funds:

Received from R. Pearl	195.41
Interest on current funds	2.18
Dividend from stock	3.75
Dues from members	187.00
From treasurer Central Branch, for share of printing members' list	18.95
Total receipts in current funds	\$407.29

Disbursements

Smoker, Princeton meeting	\$7.00
Express on records from Orono, Me.	1.15
Postage and envelopes	15.90
Membership cards and receipt book	2.75
300 copies list of members (\$45.00) with envelopes	46.35
Clerical assistance	5.98
Fees of notary and clerk of court77
Secretary's ticket, Hanover to Cleveland .	36.10
Total disbursements	\$116.00