Bryant sectioned the eyelids of a blood-ejecting specimen, and found them highly vascular and full of blood sinuses.

On July 4, while collecting specimens of *Phrynosoma cornutum* for examination of stomach contents, I was fortunate enough to witness this phenomenon. One of my students, walking by my side, stooped and thrust out his hand to pick up a large specimen, when he was met by a sudden spurt of blood coming unmistakably from the lizard's eye. The blood spread over the young man's hand in a fan shaped and even smear, extending from the second joint of the index finger to the wrist, and being about thirty mm. wide at the base. On July 7, another specimen, while being chloroformed, shot a quick jet of blood from one eye. The blood was given an almost explosive impulse, and formed a single thick drop on the inner wall of the bell jar. On July 20, another specimen ejected blood while being anesthetized. In this case, the blood on the wall of the bell jar was mixed with tiny fragments of skin and a few scales.

All three animals were subjected to a very careful examination. All were males. Their lengths were 108 mm., 110 mm. and 108 mm. The lizards were in good condition, even being free from tapeworms and other intestinal parasites with which local *Phrynosomas* are much infected. The stomach contents were characteristic, consisting of agricultural ants, small beetles, isopods, etc. In each case, the eye from which the blood was ejected showed a small quantity of clotted blood in the posterior corner. The vessels were slightly swollen. The cornea seemed to be intact. In the first two cases there was a small spot in the sclerotic coat, which can be best described as a blood blister. The contents on removal to a slide, and staining with Wright's stain, showed nothing except a few red corpuscles and lymphocytes. The third specimen showed nothing but a mass of clotted blood in the posterior corner of the eye. In each case, careful dissections were made, using needles and working under a 48 mm. objective. No parasites of any kind were found.

In my opinion, the most significant fact of all is that all three animals were moulting, the third being in quite an advanced stage.

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THE COTTON WORM MOTH AGAIN

THE large northward flight of the cotton worm moth, *Alabama argillacea* Hubn., in September, 1911, is still fresh in the memory of entomologists. In 1912 a few of these moths were taken in Massachusetts, but in 1913 none were found, so far as the knowledge of the writer goes.

The present year none were reported in September, but on the evening of October 17, large numbers appeared at the lights in and around Worcester and were in evidence for several days. No other reports of their appearance in the state this year have been received, but it is hardly probable that they were only locally present.

It is interesting to note that while they were taken during the last week in September in 1911, and from September 21 to 25 in 1912, their first appearance this year was October 17, nearly a month later than in the other years mentioned.

Since the above was put in type this insect has also been reported as abundant in Pittsfield during the same period.

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SCIENTIFIC BOOKS

Lehrbuch der Meteorologie. Von DR. JULIUS HANN, Professor an der Universität Wien. Dritte, unter Mitwirkung von PROFESSOR DR. SÜRING (Potsdam) umgearbeitete Auflage. Leipzig, 1913, 1914. Chr. Herm. Tauchnitz. 8vo. Pts. 1–9, pp. 800.[1]

It is significant of the progress of meteorology that three editions of von Hann's "Lehrbuch" have been published in the past twelve

[1] Ten parts are to be issued. The last one has been delayed, doubtless on account of the war.—*The reviewer.*

years. The first edition (1901) was at once accorded its rightful place at the head of the list of our meteorological text-books. No other book approached it as a complete, systematic, masterful discussion of the whole range of meteorological phenomena. The well-arranged and carefully selected bibliography alone was worth the cost of the entire volume. In 1906 came the second edition, in which the author introduced certain changes intended to make the "Lehrbuch" somewhat more popular, using that term in the best sense. The number of pages was reduced by 150; some of the less important details were omitted, and considerable reduction was made in the bibliographic notes. In this form the book, embodying all the noteworthy additions to meteorological knowledge which had been made during the years 1901–1906, became a most valued text and reference book to an increased number of readers.

To the great satisfaction of all workers in meteorological science, Professor von Hann has found opportunity, in the midst of his many other activities, and in spite of his advancing years, to revise his "Lehrbuch" once more, this time with the cooperation of Professor Süring. What we noted, in these columns, in regard to the first edition of this remarkable work is true, with added emphasis, of the latest issue. The general plan of the original edition has again been followed, in that the book has been increased in size, and the bibliographic notes, which were much reduced in the 1906 edition, have been restored, extended and brought down to date. For the purposes of the working meteorologist the new edition naturally has a greater value than the second, excellent as the latter was. No one can read over the new "Lehrbuch" without being profoundly impressed by the author's extraordinarily complete grasp of the whole range of meteorological literature. Everything is discussed in the light of the latest information which we have, and everywhere we see the touch of the master-hand, in the clean-cut, well-balanced and thoroughly digested discussions. Thorough as the treatment is, with marked emphasis upon the physical aspects of all the phenomena, the reader who is unfamiliar with mathematical analysis will not find the volume difficult to study. For, following the excellent plan already adopted in the first edition, the more technical mathematical and physical sections are included in an appendix. Special attention has been paid to the latest results of the aerological investigations which have become so important a branch of modern meteorology. The chapters on aerology, on clouds and on atmospheric electricity were prepared by Professor Süring, who is peculiarly competent to deal with these subjects.

Two of the matters concerning which meteorologists, as a whole, are still uncertain are the general circulation of the atmosphere and the theory of cyclones and anticyclones. Probably many readers of the "Lehrbuch" will turn at once to the discussion of these matters, in the hope that they may clear up their own minds on these debated topics. A reading of the sections in which these subjects are considered shows very clearly the gaps in our present knowledge of the facts, and the difficulty of giving satisfactory explanations under these circumstances. The case is stated clearly in the light of our present knowledge, but it is not a closed case.

Meteorologists will find, in the new edition of the "Lehrbuch der Meteorologie," their one absolutely indispensable reference book. Their colleagues, workers in other branches of science, will inevitably refer to this volume for the information which they may need to help them in their own investigations. Thus von Hann's "Lehrbuch" stands as the master-work on the science of the earth's atmosphere.

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Die physikalische Chemie der Proteine. By Dr. T. Brailsford Robertson, professor of physiological chemistry and pharmacology in the University of California. Translated by F. A. Wyncken. Dresden, Verlag von Theodor Steinkopff. 1912. Pp. 447.

This book is a careful compilation of inves-