

Already has the number of workers become numerous, and the literature extensive, while the probability that man will be able to cope with these two dreadful scourges of his race, and at least greatly curtail their ravages is very great. We need, then, the fullest knowledge of the structure, habits and transformation of mosquitoes, particularly of the genus *Anopheles*, the bearer and transmitter of these diseases, and of the nature and life-history of the parasitic organisms which cause these diseases.

As regards the mosquito Dr. Howard has given us a capital book. It is both popular and entertaining, and yet truly careful and scientific in its scope and treatment. The physician cannot do without it. As for the entomologist, we venture to say that nowhere will he find a more fresh and up-to-date account of the mosquito. He will look elsewhere in vain for the many details which have recently been discovered by Dr. Howard and other American and European observers.

The figures of the different forms, particularly of the malaria-bearer, *Anopheles*, are new and very carefully drawn; the larval and pupal forms are rendered with great apparent accuracy. Of the greatest interest is the new matter relating to the subject of parthenogenesis among mosquitoes, the food and mode of getting it by the mosquito larvæ, and the food of the adult. The latter subject is treated with a fullness of new details which is most satisfactory. It is some comfort to learn that mankind does not form the sole pasturage of the female mosquitoes, but that they will sting terrapins and puncture the head of young fish, besides sucking the blood of birds. We had previously only known of Dr. Hagen's observation of a mosquito feeding on the chrysalis of a butterfly. We also are told that mosquitoes are plant-feeders, apparently piercing the flowers of the wild cherry, and feeding readily on fruit, especially bananas; and that the male mosquito is exclusively vegetarian in its diet.

The life-history and oecology of the malarial mosquito, *Anopheles*, is very well done. First we have a full and well-illustrated account of the common *Culex pungens*, with which may be compared, thanks to the abundant and well-

drawn figures, the life-history and structure of the pestiferous *Anopheles*. The egg, the larva of different ages, with anatomical details, the pupa, as well as the fly, male and female, are represented, and there is added an account of the North American species. The food of the larva seems to be the spores of algæ, and in Sierra Leone a unicellular protococcus. How *Anopheles* bites and its length of life are also described.

The chapter on mosquitoes and yellow fever; mosquitoes and filariasis; the account of the mosquito (*Stegomyia fasciata*) which conveys the infection, with figures of the winged insect, its scales, larva and pupa, are of much value. It is refreshing to read of the immense inroads made by fishes upon the larvæ, by dragon flies and by birds, six hundred mosquitoes having been found in the crop of a single night hawk, but it will afford the reader still more satisfaction to know how easily these dangerous pests can be exterminated by the use of so simple a remedy as petroleum. On the last subject the book is strong.

A. S. PACKARD.

#### SOCIETIES AND ACADEMIES.

##### THE AMERICAN CHEMICAL SOCIETY.

THE following is a list of the papers thus far offered for the joint meeting of the American Chemical Society and Section C of the A. A. A. S. to be held in Denver during the last week in August:

1. 'Solid Hydrocarbons of the Series  $C_nH_{2n+2}$  and Liquid Hydrocarbons of the Series  $C_2H_{2n}$  in the Less Volatile Portions of Pennsylvania Petroleum' (by title): CHARLES F. MABERY.
2. 'Specific Heats and Heats of Volatilization of Hydrocarbons of the Series  $C_nH_{2n+2}$ ,  $C_nH_{2n}$ , and  $C_nH_{2n-4}$ , in Pennsylvania, Texas, California and Japanese Petroleums' (by title): CHARLES F. MABERY.
3. 'Composition of Commercial Paraffine, Vaseline, and Solid and Pasty Mixtures of Hydrocarbons, collected in Oil Wells' (by title): CHARLES F. MABERY.
4. 'Composition and Properties of Asphalts from Different Petroleums' (by title): CHARLES F. MABERY.
5. 'Analysis of a Few Southwestern Coals' (10 min.): HERMAN POOLE.

6. 'Summary of Analyses of the Massive Rocks of Boulder County, Colorado': CHARLES S. PALMER.
7. 'The Indirect Weighing of Quantitative Precipitates' (by title): R. W. THATCHER.
8. 'An Automatic Filter Washer' (20 min.): J. M. PICKEL.
9. 'Some New Laboratory Furniture': PROF. LACHMAN.
10. 'Recent Developments in Physical Chemistry': WILDER D. BANCROFT.
11. 'Proper Methods of Teaching Physical Chemistry': WILDER D. BANCROFT.
12. 'Some Points on the Teaching of Chemistry': CHARLES S. PALMER.
13. 'What Constitutes Instruction in Technical Chemistry' (15 min.): EDWARD HART.
14. 'Discussion of Methods used in Different Universities for Giving Instruction to Large Classes in Elementary Laboratory Work': WM. MCPHERSON.
15. 'The Teaching of Chemistry in Secondary Schools': FREDUS N. PETERS.
16. 'Chemistry in Manual-Training High Schools' (15 min.): ARMAND R. MILLER.
17. 'The Determination of Sulphur in Iron and Steel' (15 min.): WM. A. NOYES and L. LESLIE HELMER.
18. 'Copper as allied to the Sciences, and its Commercial Value' (7 min.): W. S. EBERMAN.
19. 'On the Decomposition of Sodium Nitrate by Sulphuric Acid'—Part III.: C. W. VOLNEY.
20. 'Quantitative Determination of Hydrofluoric Acid' (3 min.): W. E. BURK.
21. 'Methods of Standardizing Acid Solutions' (15 min.): CYRIL G. HOPKINS.
22. 'The Sulphohalides of Lead' (10 min.): VICTOR LENHER.
23. 'Hydrochlorated Mercury and Cadmium Sulphates' (5 min.): CHARLES BASKERVILLE.
24. 'Evidences of the Probable Complexity of Thorium' (10 min.): CHARLES BASKERVILLE.
25. 'Constitution of Alloys': J. A. MATHEWS.
26. 'Cryoscopic Experiments with Sulphur' (12 min.): ALEXANDER SMITH.
27. 'The Electrolytic Method applied to Uranium' (15 min.): LILY GAVIT KOLLOCK and EDGAR F. SMITH.
28. 'The Electrolytic Determination of Molybdenum' (15 min.): LILY GAVIT KOLLOCK and EDGAR F. SMITH.
29. 'The Precipitation and Separation of Silver in the Electrolytic Way' (15 min.): W. H. FULWEILER and EDGAR F. SMITH.
30. 'The Electrolytic Separation of Mercury from Copper': C. ROSCOE SHAW and EDGAR F. SMITH.
31. 'The Identification and Properties of Alpha- and Beta-Eucaine' (15 min.): CHARLES L. PARSONS.
32. 'A Comparison of the Solubility of Acetylene and Ethylene' (15 min.): SAMUEL AUCHMUTY TUCKER and HERBERT R. MOODY.
33. 'On the Estimation of Urea in Urine' (10 min.): JOHN H. LONG.
34. 'On the Determination of Formaldehyde' (15 min.): A. G. CRAIG.
35. 'A Modification of the Sulphuric Acid Test for Formaldehyde in Milk' (5 min.): A. GUSTAV LUEBERT.
36. 'The Synthesis of Ketodihydroquinazolins from Anthranilic Acid' (by title): AUGUST HENRY GOTTHELF.
37. 'Researches on Nitrocellulose' (by title): G. LUNGE.
38. 'The Reduction in an Alkaline Solution of 2,4,5. Trimethylbenzaldazine' (20 min.): E. P. HARDING.
39. 'Preparation of 2,5. Dimethylbenzaldehyde; the Estimation and Preparation of some of its Derivatives': EVERHART P. HARDING and LILIAN COHEN.
40. 'A Study of the Chemical Composition of Meat Extracts' (10 min.): H. S. GRINDLEY.
41. 'Chemical Changes Produced by the Action of Bacteria' (10 min.): H. S. GRINDLEY.
42. 'Derivatives of Diphenyl Ether' (25 min.): A. N. COOK.
43. 'The Constitution of Azoxybenzine': PROFESSOR LACHMAN.
44. 'The Action of Zinc Ethyl on Nitro and Nitroso Compounds—a Reply to I. Bewad': PROFESSOR LACHMAN.
45. 'Recent Developments in Organic Chemistry': PROFESSOR LACHMAN.

#### DISCUSSION AND CORRESPONDENCE.

##### PSEUDOSCOPIC VISION.

THE experiment described by Professor Wood (SCIENCE, August 2, p. 185) is always striking and attractive when performed for the first time, and he is probably only one of many who have attained this binocular result independently. I did so twenty years ago; and my attention was called to such phenomena more than thirty years ago by the late Professor Joseph LeConte.

But the use of the unaided eyes for the at-