summer but the men stated that their hands and faces became inflamed and swollen especially if there were any cuts. The eyes were often affected also. Lack of time prevented carrying out any experiments but it seems quite probable that the poisoning could have been traced to the Hydras. The dust was composed of dried sediment and organic matter and certainly must have contained a high percentage of Hydra remains.

This account has been written to call attention to an economic problem in relation to the fishing industry, which awaits study. There would appear to be at least four points for investigation.

(1) The amount of interference and injury caused to the nets by these great growths.

(2) The question of the poisoning of the fishermen.

(3) Do these Hydra destroy young fish to any appreciable extent in open water? Beardsley in 1902 in Bull. U. S. Fish. Comm., vol. XXII, pp. 157-160, recorded the destruction of trout fry by Hydra in a hatchery at Leadville, Colo.

(4) To what extent do these immense numbers of Hydra reduce the entomostracan food supply of young fish and of mature fish such as the ciscoes? The latter in Lake Erie feed almost exclusively upon *Entomostraca* and if the Hydra are as abundant throughout the lake as they are along the fifteen miles of shore as described above they must be very serious competitors of these fish in the matter of food.

Since the above was written Professor Paul S. Welsh of the University of Michigan has informed me that he has been making a special study of Hydra in the Lakes of Northern Michigan.

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A MOSQUITO ATTRACTANT

CERTAIN facts regarding the possibility of attracting mosquitoes were disclosed in the course of experiments made in 1919 which may have a bearing on mosquito control. Press of other work has prevented further development of this project and the following notes are offered for the consideration of those who may care to give the matter further attention.

A number of possible attractants were tested. Among these were crude mixtures of the components of perspiration and of blood which seemed to produce faint, erratic response from the mosquitoes, but it was found that a degree of warmth somewhat above that of the surrounding air was highly and consistently attractive to a certain percentage of these insects. Thus a joint of stove pipe placed in the woods and warmed somewhat by an alcohol lamp, attracted about as many mosquitoes as were attracted by persons in the vicinity. It must be said, however, that in all of our field tests of this attractant the mosquitoes were scarce.

In most of the laboratory experiments with heat *Culex pipiens* was the species used and the insects were liberated at will, as bred, into a cage about 20 x 20 x 15 inches square having the top and three sides of cheese-cloth, the bottom of wood, and the fourth side of glass for observation. The source of heat was water in a glass flask which was heated by an alcohol lamp. Air bubbled through this water through tubing by means of a pump in connection with a gas bag and was afterwards delivered to a funnel the open face of which, covered with cheese-cloth, was placed very near but not touching the side wall of the mosquito cage. A thermometer was inserted in this funnel.

As the temperature rose to a point where it exceeded somewhat that of the surrounding air a sinister beard-like growth would appear on that part of the cheese-cloth wall of the cage covered by the mouth of the funnel. This was produced by the beaks of the mosquitoes which were pushed through the cloth with great persistence as long as the current of warm, moist air was kept within certain limits of temperature. There seemed to be no specific optimum temperature but the maximum response occurred between 90 and 110 degrees Fahrenheit which represented temperatures from 15 to 30 degrees higher than that of the surrounding air. When the temperature reached 120 degrees less interest was displayed and at 140 degrees the mosquitoes were entirely dispersed.

At temperatures below 85 degrees there was very little response if any.

A comparatively small number of the mosquitoes reacted positively to heat at any one time; thus with 300 mosquitoes in the cage perhaps not more than fifteen or twenty would be attempting to feed at the height of the reaction. Whether the same individuals were concerned in each of a series of such responses or whether various individuals at different times took part, was not determined.

In nearly all of these experiments, which were made in an open insectary, no attempt was made to eliminate the odor of the observer but in some tests made in a closed room in an air-tight apparatus the mosquitoes responded in the usual manner when air was drawn from outdoors through a long tube. It is interesting to note, however, that when the breath was bubbled through the water instead of the usual current of air a decided increase of interest on the part of the mosquitoes was manifest. The admixture of various amounts of carbon dioxide with the air stream did not increase the interest over that shown for undiluted air.

In one series of experiments a hole about two inches square was cut in the lid of each of two pasteboard boxes which were exactly alike. These holes were covered with cheesecloth and a layer of absorbent cotton was supported immediately beneath this cloth. In one box the cotton was moistened with cool water while in the other it was moistened with hot water and was supported by a bottle containing hot water. When these two boxes were exposed in the mosquito cage considerable numbers of the mosquitoes would visit the warm box and attempt to feed while they paid no attention to the cool box.

Several types of traps in which heat was employed as an attractant were tested in the field and mosquitoes could be caught in even the crudest of these traps but the insects were also able to escape from all of them, displaying decidedly more ingenuity in this respect than is shown by the house fly. Experiments with more complicated traps were cut short owing to the entire disappearance of mosquitoes.

It was also found that mosquitoes in cages fed readily upon a solution of potassium arsenite in sweetened water and that this material was highly toxic to them. This suggested the use of such a poisoned bait in heat traps and traps were also devised in which the insects might be destroyed upon entering a chamber containing potassium cyanide. Neither of these agencies could be tested in the field.

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SCIENTIFIC EVENTS

HEINRICH SUTER

ON March 17 there passed away Heinrich Suter, for many years gymnasialprofessor in Zurich, Switzerland, and a noted student of the history of Arabic mathematics and astronomy. For thirty years he was active as a translator and commentator of Arabic authors. The twenty years preceding 1892, when his first distinctly Arabic research was published, were years of preparation, during which he published a history of the mathematical sciences and a number of papers on mathematics during the Middle Ages in Europe. Most of his shorter articles appeared in the *Bibliotheca Mathematica* and in Schlömilch's *Zeitschrift für Mathematik und Physik*. As regards the quality of Suter's extensive studies of Arabic science it is enough to say that they are highly respected in an age when higher standards of historical accuracy are being established in Europe.

Suter was born on January 4, 1848, at Hedingen, near Zurich; he studied in Zurich and Berlin, and took his doctorate in 1872.

FLORIAN CAJORI

THE CALCUTTA SCHOOL OF TROPICAL MEDICINE

THE *British Medical Journal* states that the School of Tropical Medicine and Hygiene and the Carmichael Hospital for Tropical Diseases at Calcutta were opened by Lord Ronaldshay, governor of Bengal, on February 4. In the issue of December 3, 1921 (p. 957), it was noted that the School of Tropical Medicine and