

Local Botanists Wage War On Mosquitoes



CAROLINA DEMOCRATS—Three Tar Heel supporters of the Kennedy-Johnson ticket in the coming November elections took time out from a busy campaign material gathering trip to Washington last weekend to visit Lyndon B. Johnson. They are, left to right, Dewey Sheffield, Tom Shelton, Johnson and Harve Harris.

By Martha Adams

Shallow, muddy ponds in south Georgia may provide a clue to a new means of controlling dangerous varieties of mosquitoes. Investigations are being carried out by three UNC botanists.

It all started back during World War II when an army base near Thomasville, Georgia, found itself besieged with mosquitoes; some of them of the dangerous malaria-carrying species, "Anopheles." The U. S. Public Health Personnel began collecting and examining the mosquitoes and their larvae and discovered that certain of the larvae were infected with a deadly, but familiar parasite. Unable even to determine whether the parasite was plant or animal, the army sent specimens to various universities in the area.

Samples finally came into the hands of Kenan Professor John N. Couch, chairman of the Botany Department in the University of North Carolina here, who was able to identify the organisms as "Coelomomyces," a small fungus which had been known in Europe and Africa since the 1920's but had never before been found in the United States.

Fungus Attacks Mosquito Larvae

The fungus attacks the mosquitoes while it is still in the larval stage and prevents it from metamorphosing into a mature adult. If it were wide enough spread, it would be an effective means of controlling the mosquito pest.

Since World War II, investigations of the habit of the mosquito and its parasite have been carried out mostly by zoologists and parasitologists. Recently, a grant from the National Institute of Health of the U. S. Public Health Service has enabled Dr. Couch and his assistants to begin study of the parasite from the point of view of a mycologist and a botanist.

"Many questions are still to be answered before the fungus can be practically used against the mosquito," said Clyde Umphlett, a graduate student who is assisting Dr. Couch in his investigations. "At present the fungus is rare, and we have not succeeded in growing it in the laboratory or in transplanting it from an infected mosquito to a healthy one."

More Facts Needed

"These are questions that can only be answered by scientists trained in the field of fungi, for they necessitate knowing the life cycle of the fungus, its mode of reproduction, the way it infects the insect and where it attacks him, and if it can successfully be grown in the labora-

tory without impairing its ability to kill the mosquito," he added.

"Collection is prerequisite to any laboratory procedure," said Cecil B. O'Neal, a participant in the National Science Foundation undergraduate research program who is helping Umphlett and Dr. Couch with their work. "We have spent seven weeks collecting larvae in the Chapel Hill and coastal areas of North Carolina and in Georgia, travelling a total of 4,700 miles. In North Carolina, we collected several thousand specimens but were unable to find a single infected larva. In Georgia, we got 2,195 and found a total of 95 infected ones."

"The fungus has also been found as far North as Canada," he added, "which leads us to believe that if we continue to search we may still find it growing naturally in North Carolina. It is evidently not limited by climate."

O'Neal and Umphlett described the area in which the Georgia larvae were found as hot, with lush vegetation and very "snak-ey." The larvae grow in shallow, swamp ponds with water about knee deep.

What Botanists Need To Know

"The main thing we must find out now," said Umphlett "is the method of infection so that we can attempt artificial infection in the lab. We suspect that the infecting agent is a "zoospore," a one-celled, non-sexual reproductive body which is released from the parent fungus at maturity, but we are not sure. It also seems that the infection enters the insect through, or in, the region of its eyes since observation has shown that in early stages the fungus is concentrated around the eyes and then moves out through the body."

"In an advanced case the body of the larvae is literally packed with fungus," he added.

Another aspect of the problem is that the various species of "Coelomomyces" are quite particular about what kind of mosquito they will attack.

"This means," said O'Neal, "that when judging its effectiveness as a means of controlling we must consider it in terms of individual species within the mosquito population and not in terms of the whole population. For example, out of the more than 2000 larvae we found in Georgia, only 95 were infected. However, 88 of the 95 occurred in the 192 larvae of a special mosquito species found in a single collecting site. This means that the fungus had killed off 46 per cent of the larvae of that species. Eleven per cent

Quotes Spoken To Insurance Men

"It is not always the best doctor who has the biggest practice or the best insurance agent who sells the most insurance. The man who is the biggest success is the one who can best handle people."

"Everything we get out of life is gotten from other people. The paydirt in managing and selling are the little fundamental facts of handling people."

With these frank words, Leslie T. Giblin, New York public relations consultant, opened his talk on human relations to the 11th annual North Carolina Institute of Insurance meeting here last week. His address was part of a day and a half seminar on the role of public relations in the insurance business.

"People," he said, "are primarily interested in themselves. 'I, me, my, and mine' are the most used words in the

English, but they are not the most useful. 'You and yours' are much better when you are trying to make a friend."

"About the strongest trait in man is the desire to feel important. We who have something to sell must learn to subordinate our own importance to that of the customer. The thing to remember is that in any business transaction the most important person is the one spending the money," said Giblin.

"Use a person's name often and pause before you answer him to show that you think his words merit a few seconds contemplation before an answer," he counseled.

"Learn to be agreeable," Giblin advised. "If you can't agree with someone, at least don't disagree unless it is absolutely necessary. Disagreements are usually just a clash of egos."

"Open every meeting with a smile even before you speak. Saying 'cheese' to yourself is a practical bit of professional advice when you meet a customer. Facial expression and tone of voice are keys to being likeable," Giblin noted.

"Be generous with praise, but never praise the person, for this may lay you open to charges of insincerity or favoritism. Praise the act, not the man. The same thing goes for criticism when it is necessary," Giblin advised the insurance agents.

"If you have made a mistake, admit it. If you lie, make alibies, or deny it, others will attack you; if you admit it, they will defend you against your own words."

Giblin summed up the problem of motivation by saying, "People do not want to 'do good' for the sake of 'doing good.' You must find out what they really want and show them that they can get what they want by doing what you want them to do."

"Every salesman wants to get a 'yes' from his customer at the end of a sales conference. The customer must be worked into a 'yes' mood," Giblin noted.

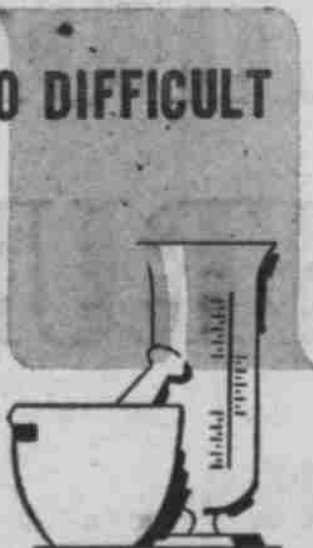
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