a mean mortality of 49.1 and 53.3 per cent. TDE in fuel-oil solutions appears to be definitely more toxic to anopheline larvae than DDT.

TABLE 3

COMPARATIVE TOXICITY OF TDE AND DDT WHEN APPLIED AS A 0.1-PER CENT DUST IMPREGNATED ON TALC AGAINST FOURTH INSTARS OF *Anopheles quadrimaculatus*
(20 larvae per test)

Material	Dosage of active ingredient	Mortality in:	
		24 hours	48 hours
	Pounds per acre	%	%
TDE	0.00156	95	100
	.00156	100	...
	.00078	100	...
	.00078	95	100
DDT	.00156	95	100
	.00156	95	100
	.00078	55	70
	.00078	75	80
Checks (untreated)	.....	10	20
	.....	5	15

These laboratory tests are only preliminary, but TDE shows sufficient toxicity to warrant further study. Although early advice indicated that the compound might be difficult to manufacture, from more recent information it appears that TDE may be manufactured on a large scale.

The Age of Jerome Bog, "A Carolina Bay"

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The unique elliptical depressions on the Coastal Plain of the Carolinas have received the attention of several physiographers, and three suggestions have been made as to how these depressions were formed. The most fascinating is that they were caused by a shower of meteorites (*7*). Cooke (*4*) has ascribed their origin to wind action and water currents in coastal lagoons. Johnson (*6*) has proposed an hypothesis of complex origin which involves artesian, solution, lacustrine, and aeolian factors. If the bays were formed by a shower of meteorites, their origin was simultaneous. On the other hand, if Cooke's hypothesis is correct, they could not possibly all be of the same age, since the bays are on different terraces. Likewise, if Johnson is correct, it is highly improbable that the time of origin was identical for all of them. Hence, if either Cooke or Johnson is right, this report is of interest only with respect to the one bay under consideration, since it is based upon a study of the deposits in the bottom of only one depression—that lying just to the east of the hamlet of Jerome, Bladen County, North Carolina.

The age of the "Carolina Bays" has been suggested as late Pleistocene previous to mid-Wisconsin time (*1*). On the basis of the data now at hand it seems safe to say that at least the depression under consideration was formed during Wisconsin time and, specifically, about the time of the Wisconsin maximum glaciation in the East.

Evidence for this has been arrived at in the study of pollen from a series of peat samples taken every 6 inches to a depth of 7 feet and four samples at 6-inch intervals from lake clay underlying the peat. Below the clay is the hard, sandy bottom of the bay. Although the pollen spectrum constructed from the peat samples shows some evidence of climatic fluctuations, it does not indicate any severe change. About the level where the clay is reached, however, there is an indication of a cooler climate, and, within a foot of the bottom, elements of the boreal forest appear in abundance. Fir and pine pollens (possibly jack pine) are very common. (The jack pine, *Pinus banksiana* Lamb., was identified on the basis of the size-frequency technique developed by Cain (*3*).) But it is by no means a pure boreal forest that is represented. Oak and hickory are conspicuously present. The composition strikingly resembles the transition forests such as those of northern Minnesota today, where the northern conifers reach their southern limit and compete with the hardwoods (*2*). Farther down in the clay at the very bottom of the deposit, the pollen represents a forest reflecting a slightly less severe climate. Fir is scarce and black gum, a southern species, absent at the fir maximum of the younger clay, is present as it is in the peat above the clay.

Assuming that the pollen in the deposit records the vegetation of the surrounding region, one is led to the conclusion that at the time the lake sediments first began to accumulate in this bog the climate was moderately cold and was becoming increasingly colder, soon reaching a maximum and persisting only long enough for the accumulation of scarcely more than a foot of clay. Dr. W. H. Hobbs suggests in correspondence that the fir and pine pollen in this case may have been blown in from the higher Appalachians. It is true that some pollen is carried great distances and has, in fact, been collected at points all the way across the Atlantic Ocean (*5*). That this is certainly not the origin of the fir pollen in Jerome Bog is obvious when one considers the high proportion of fir pollen to other species. If other species were grow-

ing in the vicinity, their contribution to the pollen would so greatly outnumber the fir, borne three hundred miles from the higher Appalachians, that the fir would be far below 1 per cent, rather than representing 12 per cent, of the tree pollen. Furthermore, fir is found only within the bottom 18 inches of the deposit, while extensive fir forests still persist in the higher Appalachians.

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News and Notes

Dr. Norman L. Munn, professor of psychology at Vanderbilt University, Nashville, Tennessee, has accepted the professorship of psychology at Bowdoin College, Brunswick, Maine, and will take up his duties at the latter institution in October 1946.

Rexford Guy Tugwell, Governor of Puerto Rico, has been appointed professor of political science at the University of Chicago. Dr. Tugwell will also direct a new program of education and research in planning, which opens 1 January 1946, in cooperation with the American Institute of Architects and agencies of the public administration clearing house.

Edward L. Bowles, expert consultant to the Secretary of War, was awarded a Distinguished Service Medal on 14 November 1945. Dr. Bowles, now an Army member of the National Academy of Sciences and the NRC Board for National Security, came to his present assignment from Massachusetts Institute of Technology, where as a professor he was head of Electrical Communications.

Dr. Franz R. Goetzl, of the Permanente Foundation, Oakland, California, has received a grant of $3800 a year from the Whitehall Pharmacal Company for studies on the physiology of pain and the action of analgesic drugs.

Dr. Nandor Porges, formerly biochemist at the Southern Regional Research Laboratory, is now technical director in charge of the chemical and bacteriological laboratories conducting research and development for the Chase Chemical Company, Newark, New Jersey, pharmaceutical and manufacturing chemists.

Dr. Laurence S. Foster, formerly of the Department of Chemistry at Brown University, who for the past three years has been employed on the Manhattan Project at Brown, the University of Chicago, and Massachusetts Institute of Technology, has been appointed chief of the Metals Forming Branch of the Research Laboratory at the Watertown Arsenal, Watertown, Massachusetts.

Dr. Norman H. Cromwell, of the University of Nebraska, has been promoted from assistant professor to associate professor of chemistry.

Announcements

The University of California at Berkeley announces the establishment of a new Division of Medical Physics, which is incorporated within the Department of Physics, R. T. Birge, Chairman. John H. Lawrence, M.D., is head of the new division, and Joseph G. Hamilton, M.D., another member of the Medical School, is associated with him, as are Hardin B. Jones, Ph.D. (Physiology) and Cornelius A. Tobias, Ph.D. (Physics). Close liaison will be maintained with the Medical School and the Radiation Laboratory, as well as with the Department of Physics.

The division is housed in a new three-story laboratory a few hundred feet away from the 60-inch cyclotron building on the Berkeley campus. This laboratory, a gift of Mr. William H. Donner, is named after him, the Donner Laboratory of Medical Physics.

The fall semester, which began in October of 1945, marked the offering of one upper-division course entitled Medical Physics. This course gives an introduction to nuclear and radiation physics, electronics, biological effects of radiations, and an introduction to the tracer technique. Four additional upper-division courses are planned for the spring semester: an introduction to medical physics, photobiology, laboratory course in medical physics, and medical-physical aspects of aviation.

Two degrees are planned: a Ph.D. in Medical Physics for students who have earned the M.D. and a Ph.D. in Biophysics for others. These degrees will require the completion of a minimum number of