pressure of American and English women. The following trustees and officers were reelected: Gregory Baxter, *president;* C. P. Curtis, Jr., *treasurer;* Jeffries Wyman, Jr., *secretary;* G. B. Wislocki, A. C. Redfield and J. C. Slater, *trustees.*

THE *Journal* of the American Medical Association states that the Association of Military Surgeous of the United States has announced the annual competition for the Wellcome Medal and prize of $500, established by the late Sir Henry Wellcome for research on subjects helpful to the objects of the association. The topic chosen for this year is "Medical and Sanitary Care of the Civilian Population Necessitated by Attacks from Hostile Aircraft." Five copies of the essay must be in the office of the association in Washington, D. C., by August 20. The medal will be awarded at the annual meeting to be held in Cleveland on October 10, 11 and 12.

THE establishment of the Minnesota Medical Foundation at the University of Minnesota, Minneapolis, was announced at a dinner commemorating the fiftieth anniversary of the founding of the school of medicine. The foundation has been set up by alumni of the university to establish scholarships, professorships, lectureships, research and aid to worthy students. The foundation will have the power to receive gifts, endowments, the rights to patents, trusts and property to carry out its aims. Funds derived from these sources will be used exclusively to assist university authorities in improving and enlarging the scope of their activities in medicine. Dr. Erling S. Platou, Minneapolis, president of the Minnesota General Alumni Association, is chairman of the foundation.

DISCUSSION

THE OCCURRENCE OF ANOPHELES DARLINGI ROOT IN BRITISH HONDURAS AND GUATEMALA

IN October and November, 1939, Mr. Ivan Sanderson of the British Museum made several collections of mosquitoes at his camp on Dog Creek, at the base of the foothills just south of Stann Creek, in British Honduras. The specimens were sent to the writer for identification by Dr. R. L. Cheverton, senior medical officer, at Belize, British Honduras. Among the material were nine adult specimens of an Anopheline mosquito tentatively identified as *Anopheles argyritarsis* R.-D. Fortunately, a single male was present in the series, and dissection and examination of the male terminalia showed that it was in every respect like the males of *Anopheles darlingi* Root, collected previously by the writer in Venezuela and British Guiana.

Anopheles darlingi is the most dangerous vector of malaria in Brazil (except the imported *A. gambiae*) and in British Guiana and Venezuela. In Belem, Para, Brazil, Davis[1] found 22 per cent. of 200 dissected, infected. Davis and Kumm[2] dissected 240 specimens at França, Bahia, Brazil, and found 28.7 per cent. infected. At Itapira, Bahia, Brazil, Kumm[3] found 3 out of 5 specimens infected. Shannon[4] found 9 per cent. infected at Porto Velho, Amazonas, Brazil. It has also been reported as naturally infected by Bennaroch[5] in Venezuela. In Panama and elsewhere, the principal Anopheline vector of malaria, *Anopheles albimanus* Wied., has been found naturally infected in percentages ranging from 1 to 2.5 per cent. The superior ability of *A. darlingi* as a vector of malaria is evident from these figures.

The northern range of *A. darlingi* has hitherto been considered as British Guiana and Venezuela, with one or two unconfirmed records from Colombia. It is not known from Panama or Costa Rica, or any of the other Central American countries. Its occurrence so far north as British Honduras was entirely unexpected, and because of its proved dangerous abilities as a malaria vector in South America, an attempt to verify its presence in British Honduras was deemed advisable. Accordingly, the writer visited British Honduras, and in company with Dr. Vernon Anderson of the Department of Health, went to the locality where the adults of *A. darlingi* had previously been found. On March 18th, 1940, larvae and pupae corresponding in every respect to the published descriptions of the species,[6] and to specimens in the writer's collection from South America, were found in side-pools along Silk Grass Creek, about 200 yards from the camp of the Silk Grass Forest Reserve, which is about two miles from Sanderson's camp on Dog Creek. Later, larvae were found in small numbers, but widely distributed, in pools along Silk Grass Creek below Silk Grass camp. Seven female adults, all blood-gorged, were taken in bed-nets of the camp personnel, and in the partly screened sleeping-quarters of the party, and one female was captured attempting to bite. None was taken with horse bait.

Most of British Honduras was suffering from a severe drought, the dry season having been unusually severe. Many potential breeding-places of *A. darlingi* were noted in and about the camp at Silk Grass Re-

[1] N. C. Davis, *Riv. di Malariologia,* 10: 43–45, 1931.
[2] N. C. Davis and H. W. Kumm, *Am. Jour. Trop. Med.,* 12: 93–95, 1932.
[3] H. W. Kumm, *Ann. Trop. Med. and Parasit.,* 26: 207–213, 1932.
[4] R. C. Shannon, *Proc. Ent. Soc. Washington,* 35, 1933.
[5] E. I. Bennaroch, *Am. Jour. Hygiene,* 14: 690–693, 1931.
[6] F. M. Root, *Am. Jour. Hygiene,* 6: 684–717, 1926.

serve. No specimens of larvae or adults were taken at Stann Creek Village, although *A. albimanus* was breeding freely in the lagoon behind the town.

The occurrence of *A. darlingi* elsewhere in the region is very probable, as through the courtesy of Dr. J. R. de Leon and Dr. Julio Herrera of the Departamento de Sanidad of Guatemala, the writer was permitted to examine their collections of mosquitoes from Guatemala. A series of six female specimens collected at Panzos, near El Estor, on the northern shore of Lago Izabal (Golfo Dulce), some 50 miles west of Puerto Barrios, Guatemala, was found in the collections. These females lacked the two lines of white scales on the first abdominal sternite, characteristic of *A. albitarsis* L. Arrib., and differed in color markings from the specimens of *A. argyritarsis* R.-D as found in Guatemala. They resembled in every respect the female *darlingi* collected by the writer at Silk Grass Camp in British Honduras. It is therefore extremely probable that *A. darlingi* is present over a wide area of the neighboring coastal lowlands.

The larval and adult specimens from British Honduras, and two females from Panzos, Guatemala, were submitted to Dr. H. W. Kumm, who has had extensive experience with *A. darlingi* in Brazil. He confirmed the writer's identification of the material as *A. darlingi*.

The occurrence of *A. darlingi* so far north of its usual range is unexplained, and its distribution should be further investigated, in view of its dangerous powers as a carrier of malaria. A full account of the conditions under which *A. darlingi* was found in British Honduras will be published elsewhere.

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U. S. PUBLIC HEALTH SERVICE,
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SOILS AND PERIGLACIAL PHENOMENA IN THE CAROLINAS

STUDENTS of the Pleistocene will welcome the observations of Eargle[1] and his associates of the Soil Conservation Service which tend to show that many of the deeper soil phenomena and the land forms of the southern Piedmont date back to the cooler times of the Pleistocene.

Many years ago Kerr[2] pointed out that mass movement was recorded in the soils of North Carolina and following, but not referring to the interpretation of the Reverend O. Fisher,[3] he held that the movement was induced by frost action more intense than that characteristic of the present climate. At present such an interpretation seems reasonable enough on the general ground that at many European localities far south of the ice border, the evidences of a severe periglacial climate have been found in the form of a warp or solifluction layer.[4] The former extension of a cold and continental type of climate as far south as the James and Tennessee Rivers has been established by the discovery of ice scratched boulders and cobbles in the terraces of southern rivers by Wentworth.[5] These scratches testify to the existence of ice jams in rivers now entirely free of such phenomena. Von Lozinski[6] has gone so far as to suggest that the earth mounds of Arkansas are the remnants of frost-heaved earth mounds, "palsen" or "busen," attributable to the cold climate prevailing at the time of glaciation. This suggestion assumes a very much greater extension of cold climate toward the south than is otherwise indicated.

Eargle notes soil movement and the consequent burial of organic matter containing the pollen of fir and spruce. He implies that this movement is the result of creep, earth flow and slump by soil materials in Post-glacial time, but it must be kept in mind that the Abbé Breuil[7] has distinguished several superimposed warps or solifluction layers ranging in age from the Gunz to the Würm.

The complexity of soil phenomena of the Piedmont was somewhat dimly perceived by the writer during a short field season in North Carolina in 1935, and with Kerr's paper in mind he was prepared to attribute a part of them to periglacial frost movement, but refrained from publication in the hope of further opportunity for more minute observation. He congratulates the Soil Conservation Service for opening this new field of attack in an area of the Piedmont a little further south.

The habit of attributing soils to the weathering of underlying formations extends into New England and New York. Here nearly all soils are described by the Soil Survey as the result of the weathering of either till or outwash. In large areas of New England a layer of frost-heaved material, a warp or solifluction layer, overlies the undisturbed till or outwash and forms the actual surface of the ground. In other places patches of loess[8] a few inches to two or more feet thick overlie the warp. The soil is immature in its development and the A-horizon lies wholly in the loess or warp. Only the limonite stain of the imperfect B-horizon extends in places into the undisturbed glacial material. In parts of Southern New England

[1] D. H. Eargle, SCIENCE, 91: 337–338, 1940.

[2] W. C. Kerr, *Am. Jour. Sci.*, 3rd ser., 21: 343–358, 1881.

[3] O. Fisher, *Quart. Jour. Geol. Soc. London*, 22: 553–565, 1866.

[4] P. Kessler, "Das Eiszeitliche Klima und seine geologischen Wirkungen im nicht vereisten Gebieten," 210 pp. Stuttgart, 1925.

[5] C. K. Wentworth, *Geol. Soc. Amer. Bull.*, 39: 941–954, 1928. J. J. Petty, *Denison Univ. Jour. Sci. Laboratories*, 29: 195–204.

[6] W. von Lozinski, *Neues Jahrb. f. Min.*, etc., Beil. Bd. 71, pt. B: 18–47, 1933.

[7] Henri Breuil, *Rev. de Geogr. physique*, etc., 7: pp. 269–284, 1934.

[8] H. T. U. Smith and H. J. Fraser, *Amer. Jour. Sci.*, 5th ser., 30: 16–32, 1935.