Two Studies of Plague

Results of plague studies by the Rodent-Plague Investigations Group of Colorado and a plague-typhus control unit created by the Communicable Disease Center of the Public Health Service and the Texas State Health Department in conjunction with the South Plains Health Department are reported in Public Health Monograph No. 6, "Plague in Colorado and Texas."

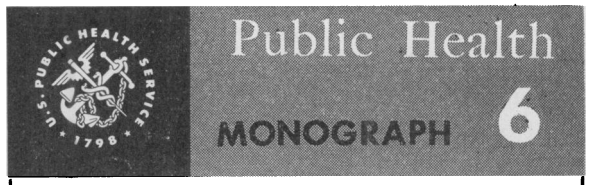
Part I. Plague in Colorado. By Dean H. Ecke, M.S., and Clifford W. Johnson, M.A.

The Colorado studies had three major objectives: to locate and study sylvatic plague epizootics, to determine the possible role of domestic rats in plague ecology in Colorado, and to determine the possible dangers to human beings from plague.

The history of human plague in the United States, beginning with the first recognized case in San Francisco in 1900, and theories on methods of spread of the disease are reviewed. Although there have been no proved cases of human plague in Colorado up to the time of this study, the disease has been demonstrated among rodents in the State for nearly 10 years.

The studies, carried out by an entomologist and a mammologist, centered in the Denver metropolitan area, with field work extending into 13 surrounding counties. The five major habitats in this area are described. Details are given of the methods, techniques, and equipment used in collecting rodents and their parasites. Whenever the collections were large enough to make computations reasonably accurate, statistical analyses were made to determine the monthly flea indexes for different species of rodents.

Thirteen species of Colorado mammals are listed, with information on their range, distri-



The accompanying summary covers the principal findings presented in Public Health Monograph No. 6, published concurrently with this issue of *Public Health Reports*. The authors are members of the staffs of the Communicable Disease Center of the Public Health Service at Atlanta, Ga., and the bureau of laboratories of the Texas State Department of Health, Austin, Tex.

Readers wishing the data in full may purchase copies of the monograph from the Superintendent of Documents, United States Government Printing Office, Washington 25, D. C. A limited number of free copies are available to official agencies and others directly concerned on specific request to the Public Inquiries Branch of the Public Health Service. Copies will be found also in the libraries of professional schools and the major universities, and in selected public libraries.

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Ecke, Dean H., Johnson, Clifford W., Miles, Virgil I., Wilcomb, Maxwell J., Jr., and Irons, J. V.: Plague in Colorado and Texas. Public Health Monograph No. 6 (Public Health Service Publication No. 210). U. S. Government Printing Office, Washington, 1952. Price 30 cents.

bution, hibernation habits, fleas found on each species, and importance of each species of flea as a plague vector. Forty-one species of fleas are listed, with information on their host preference and medical importance. A check list of the wild mammals and their fleas encountered in this study is given in tabular form. Flea species are also listed according to species directly associated with primary reservoirs of plague in Colorado, species of possible medical importance (suspected of contributing to primary or secondary reservoirs), and species of no apparent importance in plague ecology as determined by this study. A table showing the locations of plague findings in Colorado counties from 1941 to 1949 is included.

Details of plague in Park County, Colo., are given, including history, effect of plague on rodents, plague-positive findings from field collections in the county, and an evaluation of rodent species and their fleas in regard to plague. A plague-like epizootic in Logan and Weld Counties is described.

Transmission of plague by nonrodent species—avian predators and scavengers, two mammalian predators, the badger and the coyote—and man's influence on the spread of sylvatic plague are discussed.

Methods used in making rat surveys in Denver and vicinity are described. Two maps of the area are included. The results of association of domestic rats with field rodents are discussed. Results of a survey of the rural rat populations around Denver are reported.

Means of human contact with plague in Colorado—direct contact with wild rodents, contact with plague-infected fleas from wild rodents, and direct contact with domestic rats and their fleas—are described. It is concluded that direct contact with infected rodents is the most probable method of transmission of plague from rodents to man.

Part II. Rodent Plague in the Texas South Plains, 1947–49, With Ecological Considerations. By Virgil I. Miles, B.A., Maxwell J. Wilcomb, Jr., M.S., and J. V. Irons, Sc.D.

The history of plague in Texas is reviewed, the methods and procedures used by the plague-typhus control unit in nine counties in the Texas South Plains, and the type of soil, principal crops, climate, habitat types, and small-mammal species in the area are described and discussed.

Findings of campestral plague in the nine-county area are tabulated by county, date, type of material examined, number of fleas in each pool of plague-positive material, number of hosts, and location—by nearest town, direction, and airline distance from place of collection. Species of fleas and their mammal hosts, their numbers, and months in which plague was found in fleas or tissues, are noted.

Results are reported of a thorough study, from an ecological standpoint, of an area in which most of the habitat types and animal species common to the South Plains were well represented, together with a map, divided into cultivated and uncultivated zones, on which are indicated the prairie dog colonies in the area, and the relation of such areas to plague epizootics among prairie dogs.

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