

OBITUARY

HAROLD TRAPIDO

1916–1991

Harold Trapido, late professor emeritus Louisiana State University School of Medicine, passed away July 25, 1991, after a long illness.

Harold always wished to be considered a biologist rather than a zoologist, botanist or, say, medical entomologist. In thoughts, he relived the age of Victorian naturalists, versed in the intricate ways of creatures and their encompassing terraqueous world of plants—dated thoughts or visions, perhaps, no longer particularly popular, nevertheless still shared by an ever shrinking group of diehards.

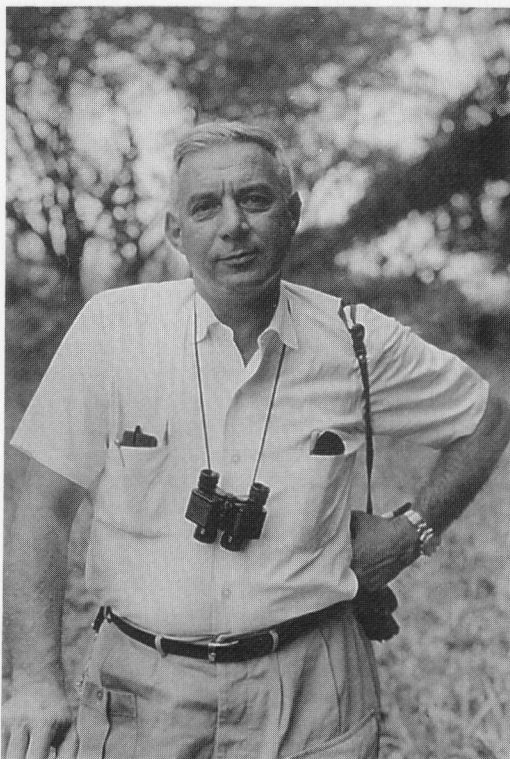
Harold was born in Newark, New Jersey on December 10, 1916. His father, Samuel Trapido, a native Lithuanian who came to this country in 1906, was a dry goods salesman. His mother, Ida Goldberg, was born in New York City.

From an early age he showed a keen interest in natural history and was constantly bringing home lowly creatures which were kept as pets in the basement; scouting activities with future scientists Libero Ajello (mycologist) and Charles Weiss (marine biologist) fueled many of these diversions. Much to his mother's dismay, reptiles became an early concern and eventually the nether regions of the Trapido home housed a number of snakes, including at least one important fecund female timber rattlesnake. This 4-foot creature, caught August 20, 1933, gave birth to 10 young September 8 and the entire operation (previously unrecorded) was carefully observed, becoming the subject of Trapido's earliest recorded scientific contribution but not published until 1939.

Following graduation from Barringer High School in 1934, Harold, with an interest in evolutionary biology, entered Cornell University where he received his B.Sc. in zoology 1938, his M.A. 1939 (minor botany), and Ph.D. 1943, again concentrating on zoology and botany but also delving into science education. His thesis was entitled "Snakes of the genus *Storeria*," a systematic and zoogeographical study. Throughout this period of academia, Harold was also eking out a living, nourishing both mind and pocketbook. During the summer of 1935 he was a day Assistant in the Science Department of Newark Museum and nights found him Keeper of Reptiles at the Staten Island Zoo. Summer 1936 saw him Biologist for the National Park Service surveying aquatic vegetation at TVA's

Reelfoot Lake, TN. During the summer of 1937, Harold assisted his professor, Robert Clausen, on a botanical expedition to the Gaspé Peninsula and southern Labrador. Again in 1940 he assisted Clausen on a botanical expedition to the western USA for a cytogenetic and taxonomic study of the genus *Sedum*. In 1938 Harold worked for the New York State Conservation Department surveying marine fish of Long Island. And during the summers of both 1939 and 1941, he worked for the Vermont Conservation Department undertaking ecological surveys of lakes and ponds.

Then the war years caught up with Harold in the form of the draft. From July 1942 to August 1943 Private Trapido found himself in the Medical Department at Camp Grant, IL and then Paine Field, Everett, WA. In August 1943 he was commissioned 2nd Lt. and served for about one year as Post Entomologist and Assistant



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Medical Inspector, Camp Davis, NC. While there, Harold learned about DDT (then classified) and drafted a project calling for its investigation and presented it to Oliver McCoy in the Surgeon General's Office. Although nothing came of the plan, May-June 1944 saw Harold completing a course in Military and Tropical Medicine at Walter Reed Army Medical Center, Washington, DC, following which, at McCoy's request, he was assigned to the Gorgas Memorial Laboratory, Panama, for work on an O.S.R.D. contract to study the effectiveness of DDT residual spraying in the control of malaria. The upshot of the ensuing investigations represented the first use of this very promising insecticide in Latin America. It was not long before Trapido realized that not enough was known regarding the adult habits of certain important anophelines and thus initiated studies of the natural behavior of mosquitoes (all stages), which subsequently became one of his primary research interests. Harold was honorably discharged from the Service in August 1946, grade Captain; he remained, however, in the Medical Service Reserve Corps as Major until 1960.

For 10 years (1946-56) Harold was employed as Biologist by the Gorgas Memorial Laboratory, whose Director initially (1929) was Herbert Clark, followed by Carl Johnson in July 1954. During this period, his publications can be divided into 3 groups as follows: (1) malaria and its control—11 papers including his classical studies of DDT residual spraying and its resultant effect on *Anopheles albimanus* behavior, as well as a scholarly 22 page treatise in "The Sardinian Project" on the concept of attempting eradication of an indigenous species; (2) yellow fever and diurnal forest mosquitoes—18 papers mainly with Pedro Galindo and Stanley Carpenter involving 6 years of arboreal mosquito studies, virus transmission experiments and epidemiological surveys of the 1948-54 Middle American YF outbreak. Included here is an important 39 page parasitological review by Trapido and Galindo "The Epidemiology of Yellow Fever in Middle America"; and (3) miscellaneous subjects—11 papers of a zoological nature concerning bats, capybaras, frogs (including descriptions of 2 new species) and a survey of West Indian phlebotomine sandflies with G. B. Fairchild.

In the early 1950s Harold was invited by the Rockefeller Foundation (RF) to act as consultant to its Sardinian malaria project, where he spent 2 summers (1950, 1952) studying the ecology of native anophelines and equating his findings with the problems and progress of the eradication effort. It was during this time that the writer and Harold strengthened their friendship. In October 1953 Trapido married Jean Litch-

man, a native of Seattle, WA, after which the newlyweds returned to Panama where Harold continued his YF investigations with Galindo for another 2½ years.

By 1956, however, Harold was considering a more permanent relationship with the RF. He was appointed a Staff Member (Biological and Medical Research) effective August 1st and October saw the couple, now with a 6-month old son in Poona (now Pune), India where Harold had been assigned as Deputy Director, The Virus Research Centre. Five months later, Harold found himself with Centre Director Telford Work completely immersed in the critical investigation of an alarming outbreak of mortal sickness affecting humans and monkeys in the Kyasanur Forest of Mysore state. Having recently retired from 6-years observing sylvatic YF in Middle America, Harold could not avoid thoughts that YF had finally invaded the Asiatic continent. Fortunately this proved not to be the case, nevertheless Poona laboratory personnel were precipitated into an all-out investigation of a hitherto unknown and deadly viral infection, Kyasanur Forest Disease. Transmitted by ticks, about which little was known in India, Harold was soon involved with Poona colleagues (Varma, Rajagopalan, Rebello, Goverdhan and Singh) in a 6-year study of tick taxonomy, ecology and distribution as well as capability to transmit virus; Harry Hoogstraal and Glen Kohls were also deeply involved in the taxonomic studies which subsequently spilled over into Southeast Asia. Some 20 or more publications resulted from these investigations.

Again in May 1960 Harold was confronted with another calamity, a dangerous horse sickness of uncertain cause afflicting the 61st Cavalry Unit, Jaipur, Rajasthan state. With Poona colleague, Keerti Shah, an immediate meeting with high ranking army officials in New Delhi followed by inquiries in Jaipur resulted in the first recognition of African Horse Sickness in India—*Culicoides* transmitted. Prompt control measures (fine-mesh screening of horse stalls, repellants, smoke smudges) and virus investigations were instituted, but not before 36 of 323 highly esteemed horses succumbed. Harold was mentioned in dispatches. Subsequently the disease harassed 12 states, resulting in a mortality surpassing 16,000 horses.

Following an intersession study leave at the Bureau of Animal Population, Oxford University (1962-64) where much of the tedious museum/library tick studies took place and where he enjoyed a close relationship with bureau director Charles Elton, Harold returned to the States and on December 16, 1964 received orders for his new assignment to the Universidad del Valle, Cali, Colombia. There, at the RF's arbo-

virus laboratory in the Department of Microbiology, Harold was principally associated over the ensuing 5½ years with Carlos San Martín and entomologist Pablo Barreto. Within 2 years of his arrival, Harold and colleagues were completely wrapped up in the investigation of a serious outbreak of Venezuelan equine encephalomyelitis which eventually affected some 50–100,000 equines and well over 200,000 humans. While mosquitoes were the principal vectors, it is worthy of note that simuliid gnats (black flies) were implicated for the first time as important virus vectors in mountainous areas. Other significant work concerned the discovery of Pichinde, a new member of the deadly arena virus group, which includes Lassa and Bolivian hemorrhagic fever. Pichinde virus is found in high mountain rodents and might possibly be transmitted by hematophagous ticks and mites.

Harold likewise became interested in the discovery of onchocerciasis in Colombia. He utilized his research and inquisitorial skills to develop an ingenious theory relating the presence of the helminths in Colombia to the importation of African slaves. Searching in the ancient Spanish archives of Popayán, Harold unearthed the names of slaves working in the Western Cordillera and was able to relate some of said names to particular tribal areas of West Africa where onchocerciasis is endemic. These slaves, whose names were critical to the sleuthing, were forced to work recovering gold at points where rapidly flowing streams (a source of immature simuliids) debouched onto the western coastal plain and dropped their loads of auriferous sand and gravel. The essay reflects the meticulousness observed by Harold in all his endeavors: clear presentation of the problem; accurate documentation of any historical aspects of the study, no matter how difficult to achieve; and careful thought taken to relate significant ecological and environmental characteristics to the evaluation or solution of the undertaking.

Trapido terminated his association with the RF August 31, 1970 to accept a professorship and eventually head of the Department of Tropical Medicine and Medical Parasitology at the Louisiana State University School of Medicine in New Orleans, which post he held until retirement in 1984. At various times he was a member of many scientific societies both here and abroad, served with WHO expert panels on malaria and viruses, editorial and advisory boards and, in later years, was chairman of the New Orleans Mosquito Control Board, as well as a member of the Mayor's Advisory Committee on dengue.

He is survived by his wife Jean, a son, Paul Trapido of Bethesda, MD, and a brother, Joel Trapido of Hawaii.

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