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THE HAROLD W. MANTER LABORATORY
A NATIONAL RESOURCE CENTER FOR PARASITOLOGY

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On its tenth anniversary the Harold W. Manter Laboratory, Division of Parasitology, University of Nebraska State Museum, was designated by the American Society of Parasitologists as one of four National Resource Centers for Parasitology in the United States. Collections include more than 80,000 lots of animal parasites many of which are primary types, more than 40,000 reprints, 250 taxonomic notebooks containing original and emended morphological descriptions of digenetic trematodes, runs of 18 parasitological journals, and books of historical and contemporary interest. Collections are of state, regional, national, and international scope, with special emphasis on marine parasitology. The Laboratory is fulfilling an important role in conservation of specimens and literature, graduate teaching, and research.

† † †

What is history and what is current event is a matter of perspective. Compared with a paper on the Lewis and Clark Expedition, the decade of history behind the Harold W. Manter Laboratory seems recent, indeed; yet we always look forward and build on our past.

HISTORY

Parasitology has a long and illustrious history at the University of Nebraska. Professor Henry Baldwin Ward, the "father of American Parasitology," the "father of American Parasitologists," the founder of the *Journal of Parasitology,* and the first president of the American Society of Parasitologists, introduced parasitology into the curriculum in 1893 (Orr, 1952). It was the first laboratory course in parasitology in the Western Hemisphere. Ward became Chairman of the Department of Zoology and Dean of the College of Medicine at the University of Nebraska before moving to the University of Illinois in 1909. He was succeeded by two of his former students: Franklin D. Barker (1909-1926) and Harold W. Manter (1926-1971). Today, John Janovy, Jr., Brent B. Nickol, and Mary H. Pritchard in Life Sciences, and Donald L. Ferguson in Veterinary Science, continue the unbroken tradition of parasitology on the Lincoln campuses.

Harold W. Manter, for whom Manter Hall of Life Sciences at the University of Nebraska-Lincoln (UN-L) was named, was an internationally known parasitologist. He described and named 66 genera and 305 species of Digenea from Australia, Fiji, the Galapagos Islands, New Caledonia, New Zealand, and the United States. He carried the name of the University of Nebraska abroad and established Nebraska as one of the few centers for marine parasitology. He established some of the basic principles of marine biogeography (Manter, 1940, 1955, 1963, and 1966) and was equally concerned with host specificity. Brooks (1979) cited Manter's Rules as:

> (1) Parasites evolve more slowly than their hosts; (2) the longer the association with a host-group, the more pronounced the specificity exhibited by the parasite group; (3) a host species harbors the largest number of parasite species in the area where it has resided longest, so if the same or two closely-related species of host exhibit a disjunct distribution and possess similar parasite faunas, the areas in which the hosts occur must have been contiguous at a past time.

Brooks (1979) concluded that "Manter's (1966) discussion of the distributions of Indo-Pacific reef-fish trematodes may prove very important in light of recent developments concerning the paleogeology of the Pacific (Nur and Ben-Avraham, 1977)."

Toward the end of his career, Manter realized that it

would be a distinct benefit to parasitology if his collections and library were to remain intact in a public institution where they would be available for use. The key words are "intact," "public institution," "available," and "use." After deliberation, he accepted an invitation by C. Bertrand Schultz to establish a Division of Parasitology in the University of Nebraska State Museum. Manter was appointed Curator and Pritchard was appointed Associate Curator in 1968. On 30 March 1971 quarters were ready and a move from Bessey Hall to W-529 Nebraska Hall activated the Division. "It's the best office I've ever had!" Manter exclaimed (Fig. 1). Two weeks later, on 15 April 1971, he did not survive open heart surgery.

FIGURE 1. The Harold W. Manter Laboratory. Mini-museum (left) featuring desk and chair used by Henry Baldwin Ward (1893-1909), Franklin D. Barker (1909-1926), and H. W. Manter (1926-1971) in room that also serves as graduate student research area; a portrait of H. W. Manter (center); and the graduate student research area which was part of the basic plan for the Manter Laboratory.

COLLECTIONS AND GOAL

The Division was named "The Harold W. Manter Laboratory" because Manter's collections formed the nucleus: a library of some 10,000 reprints, 500 volumes, and runs of the four standard American journals for parasitology; a unique set of 50 taxonomic notebooks containing the original and subsequent emendations of the morphological descriptions of the digenetic trematodes; and a collection of 20,000 lots of specimens including 1,340 species and about 500 paratype series. The American Society of Parasitologists then recognized the Manter Laboratory and passed a resolution endorsing its goal to become a resource center for parasitology: a quality research laboratory, a responsible repository for specimens and literature, and a facility where the resources could be used (*see* Moore, 1973).

ADMINISTRATION

At Manter's death, Pritchard was named Curator of the Division. To help realize the enormous potential for growth, she requested that the parasitologists on the UN-L faculty (Ferguson, Janovy, and Nickol) be designated Research Affiliates.

The curator and the research affiliates selected ten of the most outstanding parasitologists in the United States to represent the various taxonomic groups of parasites. These scientists were invited to serve the Laboratory in an advisory capacity without stipend or honorarium. All accepted the challenge and continue to serve as research affiliates: Wilbur L. Bullock, University of New Hampshire; MayBelle Chitwood, National Parasite Collection (retired); Merle F. Hansen, Kansas State University; Norman D. Levine, University of Illinois, Champaign-Urbana; J. Ralph Lichtenfels, National Parasite Collection, Beltsville, Maryland; John S. Mackiewicz, State University of New York at Albany; J. Teague Self, University of Oklahoma; Franklin Sogandares-Bernal, Southern Methodist University; Horace W. Stunkard, American Museum of Natural History, New York; and Martin J. Ulmer, Iowa State University. Gerald D. Schmidt, University of Northern Colorado, joined the group in 1978. These research affiliates have contributed expertise and enthusiasm, and several have become major donors of literature and specimens.

GROWTH

Through gifts from generous donors during the past decade, the reprint collection quadrupled to more than 40,000 pieces; the specimen collection quadrupled to more than 80,000 lots; the taxonomic notebooks quintupled to 250 books; and the journals increased from the basic 4 to 18 titles.

STUDENTS

Four students have earned Ph.D. degrees and two have earned M.S. degrees from studies in the Manter Laboratory. Two are presently engaged in doctoral programs in the Laboratory. Eight undergraduate students, four of whom earned B.S. degrees with Distinction, have done research in the Laboratory. One student from Doane College did research in the Manter Laboratory for credit to be transferred for Honors in Biology at Doane. Students represented Brazil, Canada, Egypt, and Germany, as well as the United States. Additionally, two postdoctoral students have continued their studies and research in the Manter Laboratory.

FIGURE 2. The Harold W. Manter Laboratory. The wet laboratory enables staff and students to collect and prepare parasite specimens to the level of electron microscopy. The door leads into the specimen room.

FIGURE 3. The Harold W. Manter Laboratory. Library-seminar area showing files for part of the reprint collection and two displays: "Pollution and the Cod Worm in the North Sea" (left, above files) and "*Proteocephalus ambloplitis,* a Tapeworm of Bass" (between card catalogue files).

PUBLICATIONS

More than 100 research-based contributions to parasitology have resulted from research conducted under the supervision of the Manter Laboratory: 46 publications in refereed journals; 27 papers read at professional meetings; 8 major exhibits for professional meetings or for the Nebraska State Fair; 12 invited papers read at congresses, conferences, and workshops; 3 service leaflets; and 3 books. Pritchard and Kruse (1982) celebrated the Laboratory's tenth anniversary with the publication of a book, *The Collection and Preservation of Animal Parasites,* the royalties from which will accrue to the Manter Laboratory Development Fund administered by the University of Nebraska Foundation.

VISITING SCIENTISTS

Forty-five visiting scientists have worked at the Laboratory. Most visits ranged from one to ten days, but four persons have spent sabbatical leaves at the Laboratory. Visitors represented Brazil, Canada, China, England, Iran, Japan, Norway, and Poland, as well as the United States.

FIELD WORK

In addition to Nebraska, field work of the Laboratory has been conducted in Australia, Brazil, Colombia, Colorado, the North Sea, and the eastern Pacific. Subject matter has varied from digeneans of medusae of San Francisco Bay to helminths of the fishes of Nebraska; from nematodes of Nebraska bobcats by scanning electron microscopy to the biogeography of digeneans of marine fishes of South Australia; from the etiological agent of blackspot disease in Nebraska fishes to hemiurids of fishes of the North Sea; and from computer-assisted multivariate analyses to a computer program for the cataloguing of parasite collections (Fig. 2).

SERVICES

A parasitology seminar meets weekly at the Laboratory (Fig. 3); the gifted student program of the Lincoln Public Schools utilizes the Laboratory; specimens are lent internationally to qualified professionals; 20 to 30 lots of specimens are identified annually for parasitologists, health agencies and others; and Laboratory personnel participate in professional activities of both the parasitology and museum communities, and of the federal government.

NATIONAL RESOURCE CENTER

In 1981 the American Society of Parasitologists designated the Harold W. Manter Laboratory one of four National Resource Centers for Parasitology (*see* Little, 1982). The other centers are: the National Parasite Collection, Agricultural Research Center, Beltsville, Maryland; HEW/USPHS Rocky Mountain Laboratory, Hamilton, Montana; and the Type Culture Collection, Rockville, Maryland.

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