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JACKSON DAN WEBSTER: A LIFE IN THE FIELD

Daryl R. Karns: Biology Department, Hanover College, Hanover, Indiana 47243 USA

Editor's Note. This is the first in a series of biographical articles honoring notable living members of the Indiana Academy of Science. These scientists have all served the Academy with distinction and made valuable contributions in their respective fields of scientific inquiry. We have chosen Dr. Jackson Dan Webster, Professor Emeritus in the Biology Department at Hanover College, as the subject of this first installment in the series.

It is a particular pleasure for me to have been asked by Jim Berry to write the first article in this biographical series. When J. Dan Webster retired in 1984 as a member of the Biology Department at Hanover College, I was hired into the position that he had occupied for 35 years (Fig. 1). Thus, I am Dan's successor; and I proudly occupy the J. Dan Webster Laboratory of Biodiversity in the new Science Center at Hanover. By coincidence, I actually attended his retirement reception on campus; it happened to be on the same day as my interview. I heard many J. Dan stories at that reception, including tales of his legendary energy in the field, where he would quickly outpace his much younger students. After several field trips with Dan when I arrived at Hanover, I believed those stories. Today, over twenty years after retirement he is still the same energetic biologist, perhaps slowed down a bit, but not much. One often sees Dan, in his trademark long-brimmed field cap, briskly walking across campus. Dan regularly comes into the Science Center where he continues to work on ornithological research projects.

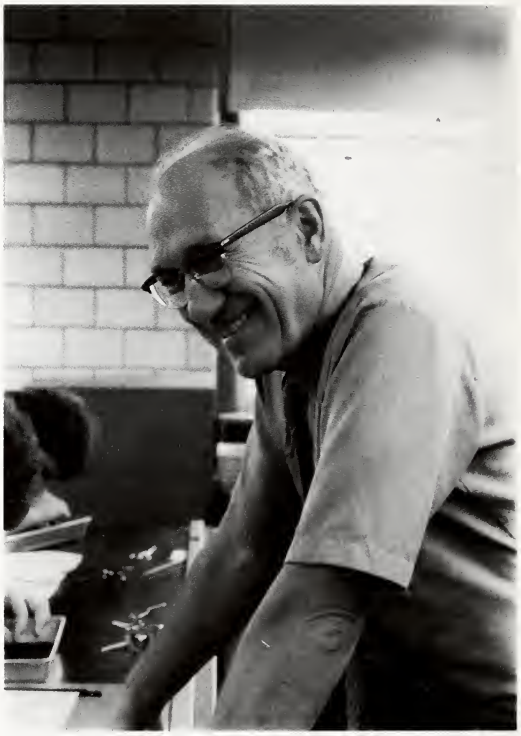

Figure 1.—Jackson Dan Webster in the zoology lab in Goodrich Hall in the 1980's. Dan's teaching and research career at Hanover College spanned 35 years.

GROWING UP IN THE NORTHWEST AND ALASKA

Jackson Dan Webster was born in Tacoma, Washington on 26 February 1919, but spent most of his boyhood in Sitka, Alaska, an ideal location to develop an interest in the natural world. His interests were promoted by his father and mother, Jackson L. Webster and Laura Kibbe Webster. Dan's father was a Presbyterian minister. He was also a keen naturalist, hunter, and fisherman, an obvious influence on young Dan growing up in the magnificent forests of southeastern Alaska. His mother was a teacher and accomplished musician who greatly enjoyed wildlife as well, especially birds. At an early age, Dan knew that he wanted to be a scientist.

After graduation from Sitka Territorial High School in 1935, Dan went to Whitworth College in Spokane, Washington. A memorable

mentor at Whitworth was Leslie Hedricks, *the* biology professor (Whitworth had only about 200 students at the time). Dan briefly considered a medical career, but was dissuaded from that path by observing another student and friend who was very bright and very adept at dissection and laboratory procedures. Dan was not as adroit in the lab; he decided that if manual dexterity was an important criterion to be a good physician, maybe he should pass on medical school and pursue his zoological interests, and that is what he did (his nimble friend went to Harvard Medical School).

GRADUATE STUDIES

Dan pursued graduate study at Cornell University in Ithaca, New York, beginning in 1939. He studied ornithology under A.A. Allen, a well known ornithologist and field biologist, and one of the few ornithologists to do field research on the Ivory-billed Woodpecker. Allen's classic 1935 photo of an Ivory-billed in Louisiana has been widely seen in recent months due to the rediscovery of the Ivory-billed in Arkansas. Dan graduated in 1941 with a Master of Science degree. His thesis research took him back to Sitka, Alaska, where he could live at home and study the life history of the Black Oyster-catcher (*Haematopus bachmani*). This species of oyster-catcher is found along the western coast of North America and feeds on marine invertebrates, mainly mollusks. Little was known about its breeding biology when Dan began his studies (Webster 1941). Dan's study sites were surf-beaten, rocky islands located 1 to 12 miles off the coast; Dan had no motorized transport and *rowed* out to the islands with his supplies where he would often stay for several days. On one trip his rowboat swamped while he was ashore on a small rocky island, and he lost his spotting scope and supplies. Dan then rowed the 12 miles home, arriving around dusk, about 9 pm in early July in those latitudes. (Now that's field work!)

Upon completion of his master's degree, Dan went to Rice Institute in 1941, now Rice University, in Houston, Texas, for a Ph.D. in the field of parasitology under Asa C. Chandler, an internationally-known parasitologist and author of a classic textbook on parasitology. Dan had developed a strong interest in parasitology and, at the beginning of World War II, it was becoming apparent that there was a need for more parasitologists to deal with the growing problem of parasite-borne diseases encountered by American soldiers overseas. The war interrupted his Ph.D. program. He was at Rice for a year and a half, then drafted, served three and a half years in the army (1942–1946), and finally received his Ph.D. in 1947.

Dan's Ph.D. dissertation consisted of two projects: one was a systematic survey of the parasites of Bobwhite Quail (*Colinus virginianus*) which resulted in the description of two new species of tapeworms (Webster 1948). He also performed experimental work attempting to determine the life history of a tapeworm, *Mesocestoides latus*, common to opossum and raccoons. His study was inconclusive (Webster 1949); it would not be until the 1980's that it was finally discovered that an underground mite was the first intermediate host and a lizard was the primary second intermediate host.

PARASITES, WAR, AND MARRIAGE

The army made good use of Dan's zoological expertise. After military training, he was put in charge of a medical lab at an Army hospital in Ogden, Utah (Fig. 2). The hospital was located at a POW camp where Italian, German, and Russian POW's were shipped from Europe. Due to a shortage of regular army personnel, Dan trained POW's as lab technicians. In addition to hospital related lab testing, he did a major survey of local mosquito populations including *Anopheles occidentalis*, a facile carrier of malaria. What was the concern about malaria in Utah? The POW's, especially the Italian soldiers, carried malaria; it was endemic in parts of Italy and North Africa. It was feared that local mosquitoes could pick up the parasite from POW's and infect the residents of the area. Fortunately, that did not happen. Dan rose from private to first lieutenant during his service and returned to Rice.

It was during the war years that Dan met and married Juanita Ross (Fig. 3). Nita is well-known to members of the Indiana Academy of Science, and she has attended many IAS meetings. In 2004 they celebrated their 60th wedding anniversary. Dan and Nita met at Rice; Nita was a biology major and Dan was her teaching assistant in an undergraduate biology lab, where, Dan notes, she was the

Figure 2.—Dan in army uniform during his military training in Springfield, Missouri in 1943.

Figure 3.—Dan and Nita Webster, portrait taken in 2001. The Webster's celebrated their 60th wedding anniversary in 2004.

best student in the class. They married in 1944 while Dan was in the service. Nita is a biologist in her own right and taught biology labs at Hanover College for three years in the 1960's; she is well known for her gardening and botanical expertise, especially with the wildflowers of southeastern Indiana.

Dan and Nita have three children, all of whom followed careers in education. His two sons are both professors of biology. Jackson Webster received his Ph.D. from the University of Georgia and today is a systems ecologist in the Biology Department at Virginia Tech in Blacksburg, Virginia. Marcus Webster received his Ph.D. from Washington State and is an animal physiologist at St. John's University in St. Cloud, Minnesota. Their daughter, Majorie Webster Underwood, met her future husband, a British citizen, while on a college trip to England to study Shakespeare. They have lived in Great Britain for many years and both have pursued careers in education; Majorie was an elementary school teacher and eventually became a Head Teacher (our equivalent is a principal); she is now retired.

A LONG CAREER IN TEACHING AND RESEARCH

Dan's first professional appointment was as an Assistant Professor of Biology, then Associate Professor, at Jamestown College in North Dakota (1947–49). Jamestown is a small liberal arts college and Dan was in a two-person department. When Dan applied for college positions he had sent out a number of applications to small colleges. While at Jamestown, he was contacted by Albert J. Parker, Jr., President of Hanover College at that time. The Biology Department at Hanover needed a zoologist and Parker had found Dan's old application—did Dan want the job? Such a hiring is hard to imagine today, but at the end of the war, colleges in the United States were being flooded with returning military personnel; qualified academics were in

Figure 4.—Much of Dan's field research took place in Alaska. This photograph from 1972 shows Dan on the Alcan Highway, enroute to a study site.

short supply. The salary at Hanover was better, the campus was beautiful, and the Webster family came to Hanover College for what was to be a long and productive 35 year career (1949–1984).

Teaching is the primary mission at Hanover College, but Dan kept up an active research program over his career. If asked to describe himself as a biologist, Dan says he is a zoologist with special interests in ornithology and parasitology. He also considers himself to be a field biologist, not an experimentalist (he notes that lab experimentation is not his forte). Dan's work has largely been pure research, not applied, although some of his papers have important conservation implications.

Outside of Indiana, the geographic focus of Dan's field work was in Alaska (field seasons in 1940, 1946, 1972, 1975, 1977, 1981, 1983, 1985, and 1986) and in Mexico (field seasons in 1950, 1952, 1954, 1955, 1957, 1959, 1964, 1965, and 1968). As can be seen, he worked in Mexico in the 1950s and 1960s, but returned to Alaska in the 1970s and 1980s (Figs. 4, 5). Although it was cheaper and more logistically convenient to work in Mexico, growing concerns about the safety of working in isolated parts of Mexico prompted the switch to Alaska. Each of these years he was camping in the field from three weeks to five months. Dan's field research emphasized birds, but included mammals, parasitic worms, and general ecology (e.g., Webster 1963, 1983). In addition to his research in Alaska and Mexico, Dan has undertaken diverse studies in Indiana as well. He is well known as an authority on the birds of Indiana and made important contributions to the ornithology of the state (e.g., Webster 1966, 1974, 1998).

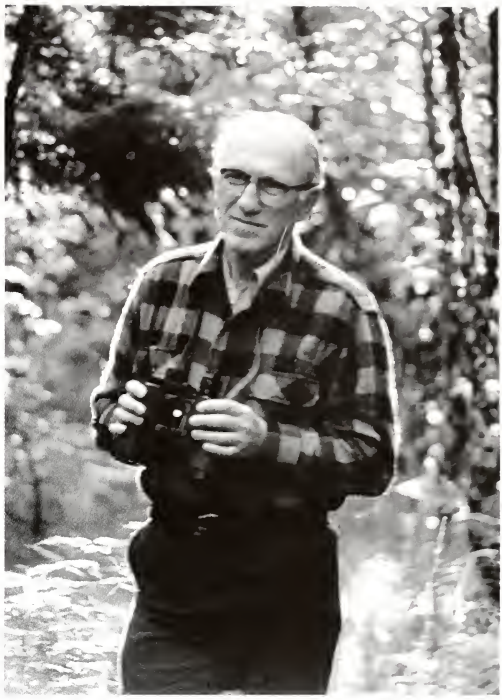

Figure 5.—Dan in the field, binoculars ready, in Alaska in 1975. Ornithology has been the main focus of his long research career.

On most of his field expeditions, Dan was accompanied and assisted by a senior biology major. Dan remembers one student, who later went on to become a professor of zoology, particularly well. Dan and the student were camping on a large ranch in the Sierra Madre Occidental in Mexico. This was rugged, pine forest country with many cliffs, ravines, and streams. They were surveying birds, mammals, and beetles in the area, and the student left early one morning for survey work, but forgot to take a topographic map with him. When the student did not come back later in the day as planned, Dan became concerned, and with the ranch owner's help mounted a search, including five mounted *vaqueros*—nothing. Dan, of course, feared for the worst—every professor's field trip nightmare. Dan and the rancher were commiserating at lunch two days later when, 54 hours after he

Figure 6.—Dan with students in old Goodrich Hall (~1964). A number of the mammal specimens on the table are still in the Hanover collection and used in classes.

left, the student showed up at the ranch, guided by an Indian. Without the map, the student had gotten terribly lost, it had begun pouring rain, and he had made some bad directional choices which took him away from the ranch. Fortunately the student ran into a family of Indians living in a cave and, overcoming language problems with hand signs, he conveyed the idea he was lost—he spent a night in the cave with the family, and the husband guided the student back to the ranch.

With a teaching career that spanned almost 40 years at two institutions, Dan has taught many, many students over the years (Fig. 6). I have spoken with a number of his former colleagues and pupils. He was considered a no-nonsense, hands-on professor; they all remember his energy level in the field—it was hard to keep up with him. They remember that he was a clear and to-the-point lecturer, who was well organized in lecture and in lab. He paid attention to detail, noting, for example, the skill, or lack thereof, with which student dissections were done. His primary courses were general biology, ornithology, parasitology, vertebrate comparative anatomy, senior independent study, and less frequently, a course in conservation. He taught a five-week long field course called Vertebrate Field Zoology for 13 years in which students traveled to the southern Appalachians. Over the years, Dan has supervised dozens of independent study projects by senior students on a wide variety of topics.

I have heard many J. Dan stories from former students, especially with respect to field trips and rigorous labs. However, Dan notes that one commonly told classroom story is not true. Dan says he did not lock the classroom door precisely at the beginning of class so that tardy students could not enter and disrupt the lecture, but he did tell the students that if they were going to be late, he would rather they just not come at all.

Dan said he had one standard piece of advice for students: always take the courses that interest you and sign up for a major that you find interesting; use personal interest, not other criteria, as a guide. A partial listing of Hanover students who went on to professional careers in biological research and teaching (Webster 2001) and to whom Dan was an important mentor would include: Frank Fisher ('53), Professor Emeritus, Rice University; Patricia L. Walne ('54), Professor Emeritus, University of Tennessee; Robert H. Brewer, ('55), Professor Emeritus, Trinity College; Harold K. Voris ('62), Curator of Amphibians and Reptiles, Field Museum of Natural History; Gwilym S. Jones ('64), Center for Vertebrate Studies, Northeastern University, Boston; R. Eric Lombard ('64), Department of Organismal Biology and Anatomy, University of Chicago; and R. William Mannan ('74), Professor of Wildlife Ecology, University of Arizona.

This partial listing could be considerably expanded with the addition of more former students with Ph.D's in the sciences, students with medical and professional school degrees, and students with Master's degrees. Dr. Walne, who passed away in 2004, endowed the J. Dan Webster award in biology, given each year to an outstanding junior biology major. She was a generous friend of the Biology Department and Hanover College. It has been my pleasure to work in collaboration with one of these Hanover/Webster alums, Harold Voris, at the Field Museum of Natural History. Since 1990 we have worked on herpetological projects in Southeast Asia and Hanover students have been involved in these studies.

RETIREMENT AND REFLECTIONS ON THE SCHOLARLY LIFE

Dan retired from Hanover College in 1984. He has continued his research program as a Professor Emeritus and is still an avid field ornithologist, but his partial loss of hearing has made it impractical for him to continue doing ornithological field research. Instead, Dan returned to systematic studies of birds with an emphasis on skeletal morphology (e.g., Webster 1999, 2003). His son, Jackson, was a co-author on the 1999 paper. Dan notes that bird skeletons did not become a standard part of museum collections until the 1930's with the use of dermestid beetles to clean the delicate skeletons; he thinks that skeletons have been underutilized in systematic research. Dan really enjoys this classical systematic work, although he admits he gets annoyed with some aspects of current phylogenetic theory.

Dan is an ardent conservationist who wants to use good science to make good decisions about the stewardship of biodiversity and land, water, and air resources. He has worked with the Audubon Society for many years and was President of the Indiana Audubon Society in 1963. He was on the state board of trustees for The Nature Conservancy for six years and is currently on the Board of Directors of the Oak Heritage Conservancy, a recently formed local land trust devoted to protecting southeast Indiana's natural heritage.

Dan has been honored over the course of his career as a Fellow of the Indiana Academy of Sciences (1959), a Fellow of the California Academy of Sciences (1962), an elective member of the American Ornithologist's Union (1961), and as President of the Indiana Academy of Sciences (1979). He was IAS Zoology section chair in 1955 and secretary from 1970–72. Dan received the Brooks Award for conservation in 1985 from the Indiana Audubon Society. In addition, Dan has had a lifelong association with the Presbyterian church and he has been an active member of the Hanover Presbyterian Church; he was elected an elder of the church in 1961.

Dan's research record demonstrates that he would have been successful at a larger, more research-oriented institution. Why choose a small, liberal arts college with a heavy teaching load? His answer is simple; he wanted to teach undergraduates; and he thought that liberal arts colleges, like the one he attended, offered the best educational environment. I asked Dan how students had changed over his teaching career. He noted that there were fewer and fewer students with farming or outdoor backgrounds; increasingly, he thought, they seemed to have little contact with the natural world. He also noted the shift in emphasis in the biological sciences, away from organismal biology and ecology to molecular and cell biology. Natural history courses, like mammalogy or entomology, are disappearing from curricula.

Today the biological sciences have become increasingly specialized. Graduate programs

produce focused authorities. Laboratory biologists often have no real knowledge of the natural history of the organisms with which they work. Field biologists do not have the taxonomic breadth of knowledge of their older colleagues. Dan belongs to a generation of biologists who were broadly trained—he is a true natural historian who brought both depth and breadth to his own research and to the many students he taught.

ACKNOWLEDGMENTS

I interviewed Dan in preparation for this article, and Dan provided me with photographs and bibliographic material. I thank him for his time and effort. I also thank the colleagues and former students with whom I spoke during the preparation of this article. Special thanks to Nita Webster. Thanks to Kim Kreuzberg, Hanover College Library, and Darrin Rubino, Biology Department, for assistance with photographs.

LITERATURE CITED

Dr. Webster's scientific publications (journal articles and book chapters) total 154 as of 2005. Of these 126 were on birds, 19 on tapeworms or other animal parasites, four on general ecology, three on mammals, one on general vertebrate zoology, and one on the history of science at Hanover College. Of these, 19 were in coauthorship, 11 were published in the Proceedings of the Indiana Academy of Science, and one was a chapter in the *Natural Features of Indiana* (1966) published by the Academy. The literature cited in this article provides an idea of the diversity of research done by Dr. Webster.

Webster, J.D. 1941. The breeding biology of the Black Oyster-catcher. Wilson Bulletin 53:141–156.

Webster, J.D. 1948. Helminths from the Bob-white in Texas, with descriptions of two new cestodes. Transactions of the American Microscopical Society 66:339–343.

Webster, J.D. 1949. Fragmentary studies on the life history of the cestode *Mesocestoides latus*. Journal of Parsitology 35:83–90.

Webster, J.D. 1963. A revision of the Rose-throated Becard. Condor 65:383–399.

Webster, J.D. 1966. The birds; Pp. 452–473, *In* Natural Features Of Indiana. (A.A. Lindsay, ed.). Indiana Academy of Sciences, Indianapolis, Indiana.

Webster, J.D. & D.L. Adams. 1974. Breeding bird censuses in old-growth deciduous forests. Proceedings of the Indiana Academy of Science 82: 198–206.

Webster, J.D. 1983. A new subspecies of Fox Sparrow from Alaska. Proceedings of the Biological Society of Washington 96:664–668.

Webster, J.D. 1998. Biogeographic analysis of breeding bird distribution in Indiana. Pp. 21–24, *In* Atlas Of Breeding Birds Of Indiana. (J. Castrale, E.M. Hopkins & C.E. Keller, eds.) Indiana Department of Natural Resources, Indianapolis, Indiana.

Webster, J.D. & J.R. Webster. 1999. Skeletons and the genera of sparrows (Emberizinae). Auk 116: 1054–1074.

Webster, J.D. 2001. Biology teaching at Hanover College, 1832–1984. Proceedings of the Indiana Academy of Science 110:167–175.

Webster, J.D. 2003. Skeletal characters and the genera of blackbirds (Icteridae). Condor 105: 239–257.

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