

Some Scientific Expeditions to the Southeastern United States Taken by David Starr Jordan

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In 1874, David Starr Jordan came to Indianapolis to teach at the Indianapolis High School (now Shortridge High School) and in the summer of 1875 "accompanied by a young engineer named Harper from Purdue" (7, p. 178) went to teach the local flora to a group of young geologists at Camp Harvard Summer School of Geology in Cumberland Gap, Tennessee, a natural passage through the mountains. The tents of the school were pitched where an artillery camp once stood and battlements and marks of the recent Civil War were quite evident in the region. The alpine grandeur of the area offered beauty as well as interesting material for natural history study.

During his stay at Cumberland Gap, Jordan was elected to the professorship in Biology in the Northwestern Christian University (now Butler University). When he returned there in the fall, one of his first duties was to transfer collections and apparatus on a dray from the College Avenue location to the new site in Irvington.

The position that he left at the Indianapolis High School was filled by a former school associate at Cornell University, Herbert Copeland, with whom he lived from 1875-1876. They resumed joint studies begun at Cornell and during the course of a year and one-half they worked on three projects: study of the life history of the Johnny Darters, the *Ethiostomidae*; identification of fishes described from the falls of Ohio by Constantine Rafinesque; and a catalogue of the fresh water fishes of the United States.

The association with Copeland ended tragically with Copeland's death when he fell into White River in January, 1877, and died of exposure shortly thereafter. Copeland's position at Indianapolis High School was filled by Alembert W. Brayton, who had been another associate of Jordan's at Cornell.

In the summer of 1876 on a trip to Georgia to study the fish fauna, Jordan was accompanied by his wife and Charles H. Gilbert who had been a student of his at Indianapolis High School and was now at Northwestern Christian University (Butler). Jordan's *Manual of the Vertebrates* arrived just as he was leaving home. The party went through Livingston, Ky., and by way of Lookout Mountain, establishing headquarters at Rome, Georgia, at the junction of the red waters of the Etowah River and clear Oostenaula River flowing from the Missionary Ridge on the north. They stayed at Rome for a month, then traveled to the Chattahoochee River and through Atlanta passing the Ocmulgee River Basin to the southeast.

The results of this expedition are embodied in *The Fishes of Upper Georgia* (3) which is a monographic review of the local fish fauna. Specimens were deposited in the Museum of Butler University where at least some of the preserved collections from that region are still located.

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In August, 1877, Jordan again set out on a summer exploration of the south, this time with a larger party which met at Morristown, Tennessee. Jordan and William Russell Dudley (another former associate at Cornell) came from the east where Jordan had visited the Smithsonian Institution. This summer trip was under the auspices of the United States Fish Commission (2, p. 25). Jordan and Dudley were joined at Morristown by Alembert Brayton; Charles Gilbert; Jordan's cousin, Edward Ely; John H. Oliver; and Wade Ritter, all students at Butler. They had walked from Rock Castle River, past Cumberland Gap, Tennessee, to Morristown. Above Morristown, the party walked up the French Broad River, through the beautiful Great Smokies to Asheville, North Carolina. They then followed the Swannanoa to its source and climbed Mount Mitchell, North Carolina, the highest mountain east of the Rockies. In Jordan's words (7, p. 162), "This wild rough mass locally known as Black Mountain, beset with balsam firs, soft moss, and many subalpine plants rises 6,711 feet above tidewater . . . On its towering summit under an overhanging rock, we passed the night." They then explored rivers around Greenville, South Carolina, and Spartanburg, and westward to Atlanta, Georgia.

In Atlanta, they visited Alexander H. Stephens, late Vice-President of the Confederate States, who entertained them with interesting reminiscences.

From there they journeyed to Rome, Georgia, and moved on to examine fishes of the Chickamauga River at Ringgold, Georgia, thus ending this long summer trip in the south. The many collections taken this summer were described by D. S. Jordan and Alembert W. Brayton in a bulletin of the U. S. National Museum in 1878 (4), and types of the new species were placed in the U. S. National Museum in Washington. Some specimens were placed at Butler.

This 1877 expedition was summed up by a Harper's Magazine article (8, p. 508) on summer schools in this way, "One of the most successful from the scientific point of view as well as one of the most ubiquitous of the schools of last summer was that connected with Butler University of Irvington, Ind. It was composed of a dozen professors and students and in the course of its eight weeks session, its members traveled over a thousand miles by rail and three hundred miles by foot. It . . . embraced the most picturesque scenery of the central Southern States. The mountains and caves of Cumberland Gap, the gorges, cliffs and Niagara-like rapids of the French Broad, the valley of the Swannanoa with its magnificent white laurels, the rugged grandeur of the Black Mountains and the falls of the Toccoa as well as the glen and cataracts of the Tallulah formed a series of the most sublime and beautiful views of mountain and river scenery. . . . But the athletic and social element as well as the aesthetic was more cultivated by the members of the expedition than is usual among schools of its peripatetic type. A base-ball club was organized which was wont to consider itself worthy to meet any nine in the Gulf States. Along the line of march, too, the frolicsome enthusiasm of the party found a vent, and its lagging footsteps were often quickened by its song:

We're a band of jolly brothers
From the Hoosier state we come
And we're known through Northern Georgia
For our wisdom, wit and fun.

The scientific results of the expedition are, however, as valuable as the trip was delightful. Collections from the flora of the regions traversed were made and specimens illustrative of several departments of geology and zoology were gathered. . . .”

In the summer of 1878, Jordan made another expedition to the south with still a larger group of companions. Alembert Brayton; Charles Gilbert; Barton Evermann, who later had a long-standing scientific relationship with Jordan; Evermann's wife; Miss Clapp, a former acquaintance at the school at Penikese; Charles Merrill, later a partner in the Indianapolis publishing firm of Bobbs-Merrill; Charles Moore, a cousin of Charles Merrill; Horace G. Smith and others were included.

An announcement by Jordan in the *American Naturalist* (5, pp. 412-413) describes the proposed trip thus: “Butler University Scientific Expedition and Summer Tramp will leave Indianapolis June 20 going by rail to Livingston, Ky., and then by foot via Rock Castle River, Wild Cat Mountain, Cumberland Gap and Clinch Gap to Morristown, Tennessee, exploring caves and seining the rivers, thence up the Big Pigeon River over the Great Smoky and great Balsom Mountains, summit higher than the White Mountains and far more beautiful and wild; thence over the mountains of Chilhowee, over the Nantahala, up the Little Tennessee River to the Estatoah Falls, through Rabun Gap to the Tallulah Falls, the wildest and most beautiful cascades east of the Rocky Mountains. At Toccoa Falls, Georgia (about July 17th) the party will divide, a portion marching through Georgia to collect fishes, the other remaining in the mountains returning as they please. Objects: natural history, health and scenery. Full instructions in Field Geology, Zoology and Botany. The two previous trips have been eminently successful, forty species of animals new to science having been obtained. For account of the last see Harper's Magazine for March. Tuition \$15.00. Board \$1.00 per day (average). Total expenses about \$70.00. Eastern students join at Morristown. Address Prof. D. S. Jordan, A. W. Brayton, C. H. Gilbert, Directors, Irvington, Indiana.”

The wild beauty of this trip is also described dramatically and poetically in Jordan's *Days of a Man* (7, pp. 165-172). He speaks of the mountain wall of the Blue Ridge “particularly delightful because of its outcropping white quartzite set against the ‘piney woods’ and for its heavy growth of Rhododendron, Azalea and Kalmia . . .” Then he says, “On the road we straggled along in groups, the party in advance marking every fork with a branch of Rhododendron flowers, and so laying out the Rhododendron Trail. This precaution was constantly necessary in a region where all paths diverge and very few lead anywhere in particular. Most of them in fact were like Thoreau's ‘Old Marlborough Road,’ merely a direction out there, a bare possibility of going somewhere, finally dwindling to a squirrel track and running up a tree.” The falls, chasms, cascades and lacelike spray were of breathtaking beauty.

Of the instruction, Jordan says (7, p. 169), “In the evening, settling in front of a little mountain cabin, Brayton, Gilbert and I would give a talk on some phase of the natural history of a region we had that day passed over. The Botany was always interesting and the Geology usually so. These discussions were much appreciated and Evermann insists that

he learned more science from me on the road than in my laboratory from which he took his doctor's degree."

Gilbert, Brayton, the Evermanns and Miss Clapp left the others at Toccoa City and went on with Jordan to Beaufort, North Carolina, where they stayed about a month studying fishes. Beaufort is represented among the fish specimens at Butler University Museum. Jordan finally finished the summer's trip at the Smithsonian Institution. Jordan's *Notes on the Fishes of Beaufort Harbor* was published in 1879 (6).

The academic year, 1878-1879, was Jordan's last at Butler University, when he left for a position at Indiana University, but he later recalled the summer tramps taken between spring and fall teaching assignments in Indianapolis as the beginning of his exploration for fish inhabitants of the United States, and which were to lead him to carry his explorations over half the earth (1, p. 136).

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