

# On White Fish and Black Men: Did Stephen Bishop Really Discover the Blind Cave Fish of Mammoth Cave?

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## Introduction

Printed references in the popular literature on blind cave fishes have a long history. From the sixteenth throughout the nineteenth centuries a number of blind cave fish observations (some certifiable, others not) had been published in China, Europe, and the American continent (Romero 2001). Because none of them met the criteria established by the Rules of Zoological Nomenclature, they are not considered valid by the scientific community. However, in 1842, James DeKay described the northern cavefish (*Amblyopsis spelaea*), making it the first species of blind cavefish recognized in the scientific literature. When DeKay described *A. spelaea*, he cited the River Styx in Mammoth Cave as the type locality, that is, where the specimen used for its description (holotype) was collected. Yet, DeKay never visited Mammoth Cave and the specimen, along with the information of when it was collected, and by whom, is lost (Romero 2002).

Stephen Bishop, a slave, and the most famous Mammoth Cave guide, has always been credited with the discovery of River Styx and the first sighting of a blind cave fish in that cave (e.g., Brucker & Watson 1987). However, the first published reference to a blind cave fish ("white fish") in Mammoth Cave appears to be by Robert Davidson in 1840 (p. 55). According to Davidson, he visited Mammoth Cave in October or November 1836 and said that River Styx had been discovered the year before (1835). This chronology challenges the conventional wisdom of Bishop being the discoverer of a blind cave fish for Mammoth Cave and its type locality. Given that Mammoth Cave is inhabited by two different species of blind cave fishes, there is also the question of which of the two was first sighted.

In this article we present the results of our own archival and field research aimed at clarifying the question of who might have been the first person to have seen (and probably collected) this fish. To that end, we reviewed all the available printed references to Mammoth Cave that mentioned its fauna previous to DeKay's 1842 publication. We investigated all possible primary literature related to Robert Davidson in order to clarify the chronology of his visit. We visited Mammoth Cave and tried to retrace the route likely taken by whoever might have been the first person to see a blind cave fish. We researched all the known specimens of the two species of blind cave fishes ever found at Mammoth Cave to see if that information could provide evidence of which of the two species was seen first. We conclude that: (1) Davidson's chronology, as presented in his book, is probably wrong and that he did not visit the cave until 1838 or 1839; (2) it is possible that Bishop was the first person to sight the fish, but others cannot be definitely excluded from having been involved in this discovery; and (3) that although there are two species of blind cave fish that inhabit the waters of Mammoth Cave, the first one sighted was likely *Amblyopsis spelaea*, which was also the first one to be recognized in the scientific literature. Finally, we conclude that the facts surrounding Stephen Bishop's fame need to be further investigated under the perspective of the romantic movement of

the mid-nineteenth century that gave rise to the "noble savage" mythology as well as on the perspective of race in the United States prior to the Civil War.

### The Conventional Narrative and its Challenges

Arguably, Stephen Bishop is the most frequently mentioned person in the history of Mammoth Cave. He was born into slavery probably around 1821 and died in 1857, a year after obtaining his freedom. Bishop was acquired by Franklin Gorin (1798-1877), a lawyer from the nearby town of Glasgow, Kentucky, when the former was about 13 years old. Gorin purchased Mammoth Cave in 1838. Bishop soon became a guide and explorer of the cave. Although by that time the most accessible parts of Mammoth Cave had been visited, explored, and mapped, a major obstacle remained to continued exploration: Bottomless Pit. Bishop is consistently credited with having suspended either a cedar pole or a log pole ladder across Bottomless Pit and thus, was able to significantly expand the known area of the cave (Anonymous 1981, Barr 1986, Anonymous 1992). More significantly, Bishop and others could now visit River Styx and Echo River and observe the blind cave fishes found there (for a good summary of the history of Mammoth Cave see Brucker & Watson 1987). Bishop is also specifically credited with discovering the fish (e.g., Anonymous 1992).

However, conventional wisdom on Bishop's accomplishments in this regard has been challenged (see for example Meloy 1977). First, it has been stated that the first crossing of Bottomless Pit was carried out by Bishop and a visitor, Hiram C. Stevenson, not by Bishop alone (Brucker & Watson 1987, pp. 266-267). Did they together (or perhaps others, later) keep exploring until arriving at the River Styx and/or Echo River and see the blind cave fish? Also, it should be noted that reaching the far side of Bottomless Pit can be accomplished by crawling and an eight-foot climb, something that any caver would have checked prior to risking a crossing on a cedar pole or ladder. A short ladder would have helped, of course. Was Bishop doing the ladder crossing to add an exciting aura to his tour for the more adventuresome visitors? (Brucker & Watson 1987, pp. 268, and Roger W. Brucker *pers. comm.*).

In 1840 Robert Davidson published an account of his visit to Mammoth Cave that seems to support the contention made by some that Bishop was not the first to cross Bottomless Pit and/or to see the blind cave fish. He wrote:

This is a stream of water twenty feet wide, and they said as many deep. It was discovered only about a year ago. Its current is very sluggish, as has been proved by launching a piece of wood bearing a lighted candle, on its bosom. We were informed that a species of *white fish* [in italics in the original] were found here without eyes, and the keeper of the hotel assured us he himself had seen them, but that their other senses were so acute, the slightest touch of water overhead was sufficient to alarm them, and make them dart off like lightning. There had been a canoe here; but the day before it had got loose from its mooring and floated away. In this visitors [sic] would row down the stream two hundred yards, till stopped by a ledge of rock. Two of my acquaintances, a week afterwards, obtained a new skiff, and resolved to pass the barrier. Accordingly, lifting the skiff over the rock, they launched it on the other side, and rowed, as thought, for two miles. They beheld a great many new scenes and chambers never explored before<sup>1</sup>. They also saw some of the *white fish*. As for us, on our visit, we were not favoured with a sight of these natural curiosities,

<sup>1</sup> At the time of Davidson's visit, tours were already being given at river level and it is unlikely that Stephen (or others) would have been deterred from continuing by a few rocks. It is possible that Davidson's acquaintances might have thought they were discovering new cave, but probably not (Rick Olson, *pers. comm.*)

which would have been to the full as interesting a spectacle as Prince Bonbobbin's white mice with green eyes, for which he ransacked the world. All we found was a poor miserable mudfish, caught with the hand by the guide, near the shore, blinded by the light. It was certainly a wonderful thought, that such a body of water should have been flowing here a furlong at least under ground, in the silence and gloom of centuries. (Davidson, 1840, pp. 54-56).

Davidson's book is titled *An Excursion to the Mammoth Cave and the Barrens of Kentucky read before the Society of Adelpi of Transylvania University. January 16, 1840*. We can therefore assume that his visit to the cave took place before 1840, but when, exactly? Davidson, while describing his visit, says: "It was the early part of October, 1836, that we first set foot in this interesting region" referring to Henderson, Henderson County, Kentucky. From there, he and his companions hired a barouche and headed south to Hopkinsville where they spent one week after having traveled for two days. From there they went to Elkton and stopped for a night at Russellville. The next day they passed through Shakertown "just midway on the road between Russellville and Bowling-Green." They apparently reached the latter town that very same day. Davidson then started describing Mammoth Cave "twenty-four miles from Bowling-Green" and immediately begins the account of his visit.

Based on this description one might conclude that Davidson's visit to Mammoth Cave took place late in October or early November 1836. Furthermore, Davidson mentioned in his narrative that the river where the fish lives "was discovered only about a year ago," i.e., in 1835. If that were the case, the "white fish" might have been discovered almost three years before Bishop became a guide to Mammoth Cave and thus, contradicting the accepted story that Bishop (and/or his companions) discovered the fish in question.

However, Davidson's narrative is confusing. First, he did not mention by name the body of water where the fish was seen except for calling it "*The River*" (p. 54). Secondly, he mentioned visiting "the Dome, called Gorin's Dome, for its discoverer and late owner" (p. 56). Because we do not know exactly when Davidson wrote his book it is hard to determine whether he is referring Gorin as owner at the time of his visit or well after the fact. Gorin purchased Mammoth Cave on April 17, 1838. Does this date mean that Gorin actually explored the cave at least three years before he purchased it? But if Gorin explored the cave at least three years before purchasing it, could he have been accompanied by Bishop himself? Furthermore, Davidson wrote about crossing Bottomless Pit using a ladder *after* seeing the "white fish." Was he confused by the passage of time between the occasion of his visit and that of writing his account that he switched the order of events? Davidson probably wrote his account sometime in 1839 because he states that "It was with a feeling like regret that I heard that the present owner, Dr. Croghan, of Louisville, who has just purchased the estate for ten thousand dollars" (pp. 62-63). John Croghan (1790-1849), a physician, did not buy Mammoth Cave until 1839.

There is a smoking gun favoring the hypothesis that Davidson got not only the order of events of his trip wrong, but the chronology as well. On page 66, he states that after leaving the cave that night while at the hotel "the landlord afterwards averred, that some of his guests had made a terrible noise in the night, and called out lustily for *Stephen, the guide!*" Because there are no other guides on record with the first name of Stephen for that period, we must conclude that he was referring to Stephen Bishop.

AN EXCURSION  
TO  
THE MAMMOTH CAVE,  
AND THE  
BARRENS OF KENTUCKY.  
WITH SOME NOTICES OF  
THE EARLY SETTLEMENT OF THE STATE.

BY THE  
REV. R. DAVIDSON.

LEXINGTON, KY.  
A. T. SKILLMAN & SON.  
1840.

Figure 1. Title page of Davidson's book.

Although Davidson does mention that his party was accompanied by "guides" without specifying names, number, or ethnicity, it is most likely that such guides were, in addition to Stephen Bishop, the brothers Materson and Nicholas Bransford, two other slaves owed by Thomas Bransford of Nashville and hired by Gorin for \$100 each per year to serve as guides in the increasingly popular cave tours (Brucker & Watson 1987, pp. 269).

This being so, Davidson's excursion most likely took place in late October or early November 1838 or 1839 because Bishop became guide at Mammoth Cave after April 17, 1838, when Gorin bought the estate. Furthermore, this is consistent with the conventional chronology that Bishop crossed Bottomless Pit for the first time on September 20, 1838. Therefore, Davidson and his party must have been among the first outsiders visiting River Styx. If Davidson's phrase that the river had been discovered "only about a year ago" before his visit is correct, then it is quite possible that his visit occurred in October 1839.

### **Can Robert Davidson's Chronology be Authenticated?**

Of course, despite the contradictions, it is possible that Davidson (or others) visited River Styx before Bishop. Is there any documentation on Davidson's life that could substantiate such an hypothesis? Davidson was a clergyman, born in Carlisle, Pennsylvania, on February 23, 1808. He was the son of Robert Davidson, an educator, theologian, and also a Presbyterian clergyman of some notoriety. Robert Jr. was a graduate of Dickinson College (1828) and Princeton Theological Seminary (1831). He was pastor of the second Presbyterian Church in Lexington, Kentucky (1832-1840) and in the latter year became president of Transylvania University, a post he held until 1842. He later held pastorates in New Brunswick, New Jersey, New York City, and Huntington, Long Island. He went to Philadelphia in 1868, where he died on April 6, 1876.

We contacted Dickinson College, Princeton Theological Seminary, Transylvania University, and the Second Presbyterian Church of Lexington, KY, to see if Davidson had donated his papers to any of those institutions in the hope that such papers might contain some information clarifying the chronology of his visit to Mammoth Cave. Unfortunately there is no evidence that he did so. Interestingly, all of them had only scant information about Davidson, on the basis of which we have written the above biographical sketch. We could not therefore find any corroborative document on the chronology of Davidson's visit to Mammoth Cave.

What about others? We checked all relevant published descriptions of Mammoth Cave prior to the publication of the scientific discovery of the blind cavefish in 1842. For example, John Hay Farnham (1791-1833) published a letter in 1820 describing Mammoth Cave in which he makes no mention of any fauna whatsoever. In 1832 Constantine Samuel Rafinesque (1783-1840), a noted naturalist, published an article, "The Caves of Kentucky," in which he described Mammoth Cave, mentioning its bats and rats. He was a professor at Transylvania College (1819-1826) and explored Kentucky thoroughly (Warren 2004). He also had discovered the cave salamander *Eurycea lucifuga*. There is no question that if he had had knowledge of (or seen) a blind cave fish in Mammoth Cave he would have mentioned it.

In 1835 Edmund F. Lee, who extensively explored Mammoth Cave between 1834 and 1835, published a very precise description of the cave where he cited bats, rats, and a

“nearly transparent” cricket, but no fish. Dr. Robert Montgomery Bird (1806-1854) of Philadelphia, published extensive accounts of the cave in 1837 and 1838 based on his 1833 and 1835 summer explorations of it in which he mentions the bats, rats, and insects of the cave—but no fish. Another 1838 article, this time anonymous, written by someone who obviously had visited the cave and explored it at length, makes no mention of the fish either (Anonymous 1838).

Therefore, it seems that the fish in question was not seen before 1838, which would be consistent with our assertion that Davidson’s visit took place in 1839 and hence, his reference that the river where the “white fish” was found was discovered a year earlier, is consistent with the conventional wisdom that Bishop and/or others did not cross Bottomless Pit, finding the fish, until the autumn of 1838.

### But Which “White Fish”?

Blind cave fish from Mammoth Cave were routinely captured by Bishop and others and exhibited at the lodge built by Gorin to accommodate visitors (Brucker & Watson 1987, p. 272). Two species of blind cave fish have been reported for Mammoth Cave: the northern cavefish (*Amblyopsis spelaea*) and the southern cavefish (*Typhlichthys subterraneus*). Which one was seen first? We surveyed major museum collections of specimens for both species and the results are shown in Tables 1 and 2. We found 29 confirmed records for the northern cavefish and eight for the southern cavefish, having Mammoth Cave as the collecting locality. The data in these tables show that records for the northern cavefish in Mammoth Cave date back to at least 1842, the year in which the species was scientifically described by DeKay (Romero 2002), while records for southern cavefish do not appear until 1879. Therefore, because of the number of records and their chronology, it seems that most probably the first blind cave fish seen at Mammoth Cave was *A. spelaea*. Furthermore, *A. spelaea* is larger and easier to see, which would be important when using dim lanterns. Additionally, the base level habitat of River Styx is dominated by this species; *T. subterraneus* is more prominent in streams with currents above base level (Rick Olson, *pers. comm.*).

Unfortunately, many of the registers of the hotel and cave were apparently destroyed in the December 9, 1916 fire that consumed the old Mammoth Cave hotel (Goode 1986, p. 14). Although some of the post-1842 registers are available (Robert H. Thompson, *pers. comm.*), none contemporary with the discovery of the blind cave fish are known to exist. With the destruction of those records we have lost any chance of knowing who came to Mammoth Cave and if they could have traveled with Stephen Bishop. However, the specimens at museum collections do indicate that many of the specimens were collected (or brought by) notable people from New England. For example, the first time that a blind cavefish from Mammoth Cave was mentioned in the scientific literature was in a short note in the *Proceedings of the Academy of Natural Sciences of Philadelphia* (Anonymous 1842). There it was reported that a W.T. Craigie donated to the Academy at the May 24, 1842 meeting a specimen of “a small white fish, also eyeless (presumed to belong to a subgenus of *Silurus*), taken from a small stream called the ‘River Styx’ in the Mammoth Cave, Kentucky, about two and one-half miles from the entrance.” In the Academy’s collections today there are four specimens of *Amblyopsis spelaea* in alcohol that appear linked to this donation. Two are catalogued as

ANSP 7964 collected by W.T. Craigie, another is ANSP 7963 collected by "Mrs. C.H. Graff, Messrs. Craige & Lambert," and a fourth is ANSP 7966 collected by J. Lambert. Because of the consecutive numerals, we also suspect that ANSP 7961 and ANSP 7962 (one specimen each) were also collected at the same visit to Mammoth Cave. The names of these and other collectors belong to distinguished people of cities such as Philadelphia and New York.

### **Conclusions and Further Research**

Two major factors influence historical research: one is access to primary sources, i.e., documentation that is contemporary with the facts we are trying to discern; the other is the surrounding mythologies of the facts that create barriers to understanding the real story. The case of Stephen Bishop epitomizes both. Firstly, there are very few contemporary sources on Bishop and his accomplishments. One is a letter of Franklin Gorin's, an account of Bishop after his former slave had died (Forwood 1870). Another is Marianne Finch's (1853), an Englishwoman who visited the pre-Civil War South 20 years or so after slavery had been abolished throughout the British Empire. A third is by Nathaniel Parker Willis (1806-1867) (in Randolph 1853, p. 53-54), a noted romantic and idealist of American nature. All these writings took place in the midst of the Romantic Movement which worldwide, was especially profound in the United States, influencing even the first describer of the first blind cave fish species, James DeKay (Romero 2002). That movement created the now famous myth of the "noble savage," the man of another race who was essentially a good person and whose value as a human being was to be admired and publicized. These characters figured prominently in popular travel accounts. Facts were made to fit (or at least portrayed within) these romantic values. Therefore, in order to understand who Bishop really was and how stories and history interact in this case, we need to look into these facts in the context of nineteenth century romanticism and race in pre-Civil War times. Or maybe we are chasing an illusion in pretending that the real story will really be known.

**Table 1. Known specimens of the northern cavefish (*Amblyopsis spelaea*) collected in Mammoth Cave (for museum acronyms see legend in Table 2).**

| Date             | Collector                                    | Catalog Number             |
|------------------|--|----------------------------|
| b. 1843 (?)      | J.E. Mitchill                                | ANSP 7961                  |
| b. 1843 (?)      | J. Darley                                    | ANSP 7962                  |
| b. 1843 (?)      | Mrs. C.H. Graff, Messrs. Craige & Lambert    | ANSP 7963                  |
| b. 1843 (?)      | W.T. Craig                                   | ANSP 7964                  |
| b. 1843 (?)      | J. Lambert                                   | ANSP 7966                  |
| 1844 May         | J.A. Granger                                 | NYSM11464 <sup>1</sup>     |
| 1851             | ?  | BMNH 1851.11.20.1          |
| 1853 June 18     | ?  | NRM 8380                   |
| 1866             | Vatble                                       | MNHN 0000-4184             |
| 1876 December 24 | J. Lindahl                                   | NRM 8000                   |
| 1890?            | Tison  | MNHN 1890-0043             |
| 1893             | H.C. Ganter                                  | USNM 00044435              |
| 1896(?)          | ?  | BMNH 1896.9.30.13          |
| 1901 September 1 | W.P. Hay                                     | USNM 00127056 <sup>2</sup> |
| 1905 May 15      | C.H. Eigenmann                               | USNM 00127055              |
| 1909 October 9   | Columbia University, Dept. Comp. Anat. Coll. | AMNH 879                   |
| 1909 November 16 | Füllhorn                                     | ZMH 13174                  |
| 1918 April 9     | E.O. Hovey                                   | AMNH 12112                 |
| ?                | Finn   | AMNH 1156                  |
| ?                | Holmes                                       | AMNH 1646                  |
| ?                | Mrs. Frederick                               | ANSP 20373                 |
| ?                | ?  | MNHN 0000-2762             |
| ?                | Claine                                       | MNHN 1890-0042             |
| ?                | Bromer, Fr.                                  | NRM 8001                   |
| ?                | J. Sloan                                     | ROM 08046                  |
| ?                | ?  | USNM 00005863              |
| ?                | ?  | USNM 00048867              |
| ?                | ?  | USNM 00237001              |
| ?                | ?  | USNM 00237004 <sup>3</sup> |
| ?                | Baum u. K. Hoffmann                          | ZMH 13175                  |

<sup>1</sup>Specific location: River Styx

<sup>2</sup>Roaring River

<sup>3</sup>Echo River

NOTE: The holotype or specimen used to describe the species was collected at River Styx and was deposited at the collection of the Lyceum of Natural History of New York but is today lost (Romero 2002).

**Table 2. Known specimens of the southern cavefish (*Typhlichthys subterraneus*) collected in Mammoth Cave.**

| Date             | Collector      | Catalog Number             |
|------------------|----------------|----------------------------|
| 20 December 1879 | ?              | ZMUC * 2                   |
| 20 December 1879 | ?              | ZMUC * 3                   |
| 1884             | Swain Gilbert  | USNM 00036632              |
| 1884             | ?              | USNM 00036806              |
| 1903             | C.H. Eigenmann | AMNH 18715                 |
| ?                | ?              | AMNH 8103                  |
| ?                | ?              | CAS 125283 <sup>1</sup>    |
| ?                | W.P. Hay       | USNM 00101172 <sup>2</sup> |

<sup>1</sup>River Styx

<sup>2</sup>Roaring River

Acronyms for museum collections: AMNH: American Museum of Natural History (New York); ANSP: Academy of Natural Sciences of Philadelphia; BMNL: British Museum of Natural History (London); CAS: California Academy of Sciences (San Francisco); MNHN: Musée Nationale d'Histoire Naturelle (Paris); NMR: Swedish Museum of Natural History (Stockholm); NYSM: The New York Survey Museum; ROM: Royal Ontario Museum (Ontario, Canada); USNM: United States National Museum (Washington, DC); ZMH: Universität Hamburg, Zoologisches Institut und Museum (Hamburg, Germany); ZMUC: Zoological Museum of the University of Copenhagen.

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