

The Unsung Heroes of Speleology

NO OTHER SCIENCE OWES SO MUCH TO ANONYMOUS AMATEUR EXPLORERS AS SPELEOLOGY DOES

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At the beginning of the twentieth century, the Congo was like no other European colony in the African continent. Instead of being the property of the state, the 2,345,410 square kilometers of tropical forest full of mystery and intrigue was the personal property of King Leopold II of Belgium. Known as the world's largest private ranch, it would epitomize the African jungle and inspire literary masterpieces such as Joseph Conrad's *Heart of Darkness*.

The king saw the importance of scientific research in this area. He instructed voyagers and explorers to collect information about the Congo, its people, flora, and fauna. Not surprisingly, many Belgian officials there collected and took to Europe zoological specimens that had never been studied. The Congo became such a famous place that a great number of specimens of the fauna and culture of that part of the world were put on display at an international exposition in Brussels in 1897. This was such a success that Leopold created the Congo Museum in Tervuren, Belgium. Leopold gathered the brightest scientists in the country to advise him about how to manage the collections. Among those was one of the most famous naturalists that Belgium has ever produced, George Albert Boulenger.

Boulenger was born on October 19, 1858 in Brussels. He was the only child of Gustave Boulenger, a Belgian public notary, and Juliette Piérart de Valenciennes. After graduating in 1876 from the Free University in Brussels with a degree in natural science, he started working at the Museum of Natural History of Brussels as an assistant naturalist studying amphibians, reptiles, and fishes. Because of the lack of appropriate collections and well-stocked libraries in Belgium, Boulenger made frequent visits to the Musée National d'Histoire Naturelle in Paris and the British Museum in London. This young man must have greatly impressed his colleagues, because at the age of 22, in 1880, Boulenger was invited to work at the London museum by one of the foremost zoologists of the time, Albert Günther. Boulenger was to prepare a new catalog of amphibians in the national collection there. A position at the museum meant he had to be a British civil servant, so he became a naturalized British subject. In 1882, he was appointed first-class assistant in the Department of Zoology, a position he held until his retirement in 1920.

After he retired, he switched specialties and immersed himself in the study of roses. By the time of his death in 1937, he had published thirty-four papers on botanical subjects and two volumes on the roses of Europe. But besides having this unusual

career, Boulenger was an unusual character. He was incredibly methodical, but what impressed people was an amazing memory that enabled him to remember every specimen and scientific name he ever saw. He also had extraordinary powers of writing effortlessly. He seldom made a second draft, and his manuscripts showed but few corrections. They went straight to the publisher. They were never typed, as he never employed a typist.

Boulenger was austere, played the violin, and loved the theater, particularly the operetta. French and English were his mother tongues, but he could speak German and was able to read Spanish and Italian and a bit of Russian. He had a working knowledge of both Greek and Latin. He was known as a kind man, especially toward children, who were fascinated by the fact that a chimp shared his family home in London with his wife and three sons.

Despite his varied interests, Boulenger was first and foremost a scientist. By the time of his retirement in 1920, Boulenger had published 877 papers totaling more than five thousand pages, as well as 19 monographs on fishes, amphibians, and reptiles. He described 1,096 species of fish, 556 species of amphibians, and 872 species of reptiles. He was famous for his monographs on amphibians, lizards and other reptiles, and fishes, as well as for his monographs on the fishes specifically of Africa. His scientific contributions were recognized all over the world. He was a member and distinguished officer of scientific societies in Europe and the United States. In 1935 the American Society of Ichthyologists and Herpetologists

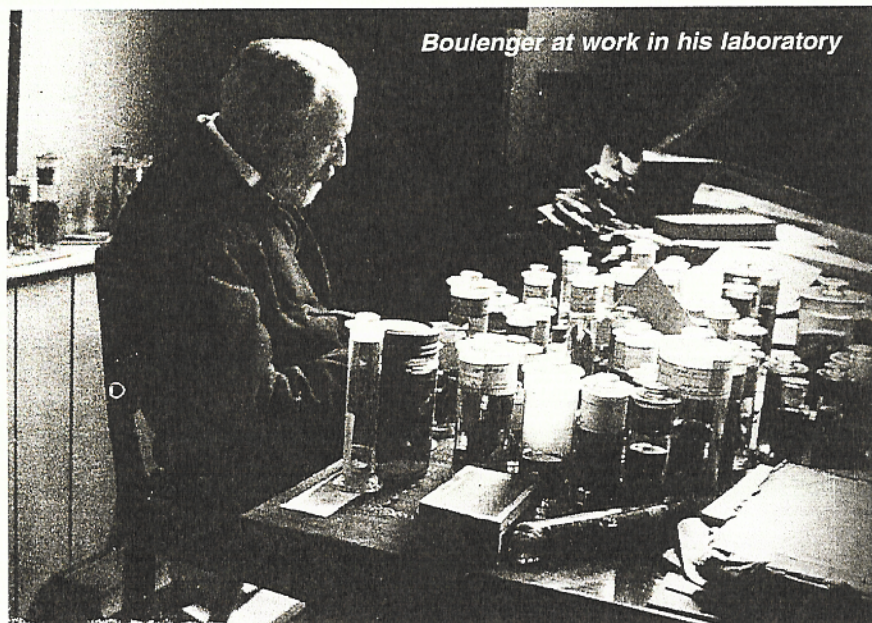
electd him as its first honorary member, and in 1937 Belgium conferred on him the Order of Leopold, its highest honor for a civilian.

FROM THE CONGO CAVES WITH LOVE

In 1897, when King Leopold II was recruiting naturalists for a commission in charge of the Congo Museum, Boulenger, despite the fact that he was living in London, was named chairman. This is when he put his extraordinary energy and productivity into the study of the freshwater fishes of Africa. He encouraged travelers and residents in various parts of Africa to send home specimens. In 1921, he received a strange specimen from the Congo. It was eyeless and lacked pigmentation. He was quick to recognize that this was something nobody had seen before. It was not closely related to any existing surface species in Africa. Despite the fact that he was retired and no longer working in zoology, he decided to write a brief paper describing this new species of cave fish, the first ever described from Africa. He named it *Caecobarbus geertsi*, from *caeco* (blind) and *barbus* (barbed) and the mysterious person, M. Geerts, who provided him with the specimen. Today it is popularly known as the Congo or African blind barb. Boulenger's only previous publication on cave animals had been a short note on eye development in the European cave salamander *Proteus* published in the prestigious scientific journal *Nature*.

While Boulenger is recognized as the scientific discoverer of this species, the fact is that others were the true discoverers of the

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Boulenger at work in his laboratory

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tiny cave fish. For one thing, Boulenger had never been to Africa. Who was the true discoverer of this biological relic? Here is where the story becomes as obscure as the dark continent from which it came. Details are sketchy and holes in the story are big, but here is what we know.

In 1917, during the dry season, a party of amateur cave explorers penetrated 500 meters into a limestone cave situated about 700 meters above sea level in the Lower Belgian Congo near Thysville (today Kanka, near Mbanza-Ngungu, 5°18' S 14°50' E), and there they found blind and depigmented cave fish. One of those amateur explorers, M. Geerts, waited until after World War I, when it was safe for him to go back to Belgium, and carried with him a few specimens of this bizarre fish. The choice for receiving these specimens was obvious, for Boulenger was not only the foremost specialist in African fishes, but was also a Belgian. In his 1921 paper, Boulenger, grateful and following a common practice among naturalists, named the species after the person who had brought it to him. Unfortunately, we know nothing about this mysterious M. Geerts except for the fact that he was not a professional scientist.

Even more mysteriously, it seems that in 1915, two years before the fish had been collected by Geerts, another explorer, M. Delporte, may have actually been the first European to see the fish. Nothing is known about Delporte. To add to the list of unknown pioneers, we also learned that one E. Randour found the same fish in other caves in the same area during the 1920s. All we

know about him is that he wrote a little-known booklet on the Congo that is difficult to find in any American library.

Soon this extraordinary fish became a celebrity in the world of cave fish. It was easy to transport alive, and many European scientists started to work on this species. It became so famous that in May 1951 it was exhibited at the New York Aquarium. Today it is one of the best-studied species of cave fish in biospeleology. Thanks to these studies, we have a better understanding of the adaptations of cave animals to the subterranean environment. But without the efforts of cavers Geerts, Delporte, and Randour, these studies would not have been possible. While they are not as famous as Boulenger, without them and others like them, our knowledge of cave biology would be far poorer than it is today. Professional scientists owe a great deal of gratitude to such people. They are the unsung heroes of speleology.

ACKNOWLEDGMENTS

Dr. G. Teugels, of the Musée Royal de l'Afrique Centrale, in Tervuren, Belgium, provided useful information and specimens of *Caecobarbus geertsi*.

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