

## YOUTH



# EXPLORER SHEDS LIGHT ON WORLD OF CAVES

Uncovering the mystery of what lies below the surface has given a former reporter another domain to explore, **Yang Feiyue** reports.



What is underneath our feet can often captivate us as much as that which is in plain sight. This was certainly the case as a love of adventure led a former news reporter to follow a career of spelunking — the exploration and study of caves.

Zhou Yuanjie has explored more than 40 caves across Southwest China's Guizhou province, recording these expeditions through more than 40,000 pictures and 1,200 minutes of video.

The 33-year-old Guizhou resident's photos and videos have brought to light the extraordinary beauty hidden underground.

Zhou's passion for the fascinating world of caves was sparked when, in 2012, as a journalist of a local newspaper, he covered a team on a search and rescue mission to find someone who had accidentally fallen down a naturally-formed rock shaft in neighboring Yunnan province.

"It was the first time my eyes were opened to the dark world under my feet, and I felt all of my previous life experiences completely dwarfed," Zhou says of his awakening.

The shaft was more than 200 meters long and, as his helmet's light reflected off the geological wonder, it took his breath away.

"I felt my sense of time, direction, familiarity and comfort all vanish," he says.

In one of those quirks of fate that can change lives, Zhou, who lives in Guiyang, provincial capital of Guizhou, found out that he lived close to the search team's leader. So, he began to learn from him about this underground world and the skills necessary to navigate it.

"I spent practically all of my energy after work focusing on spelunking," Zhou says.

He learned how to use rope to climb cliffs, how to snorkel and how to paraglide before he joined professional cave exploration teams.

But it took him time, literally, to find his feet. In the beginning he had to conquer vertigo and nausea.

"First, you need to learn not to be a burden on the team, as well as how to install equipment and where to go in the unknown territory of a cave," Zhou says.

"Safety is of the utmost importance, and every team member has to receive rigorous training and learn to deal with the extreme environment and accidents that might occur at any time."

Zhou also picked up knowledge about caves, from rock formations to the changeable conditions underground, such as temperature and humidity levels.

"One needs to know the formation process of what's inside a cave, and its different characteristics during dry and rainy seasons," he says.

Moreover, spelunkers also have to protect the cave they enter. No food and batteries can be left behind. Take nothing but memories.

"It takes a long time for cave sediments to form, and I would rather give up a photo if taking it would undermine the existing cave structure," Zhou says.

Guizhou abounds in karst landforms which take the shape of enclosed depressions, sinkholes, as well as cave systems and subterranean rivers.

## Gems in the dark

Caves don't have sunlight and mobile phone signals are nonexistent. It is another world. But nature has done something special down there, with glistening rock deposits giving some caves the majesty of marble skyscrapers. One might also come across fossils of ancient marine life or murals left by cave dwellers thousands of years ago.

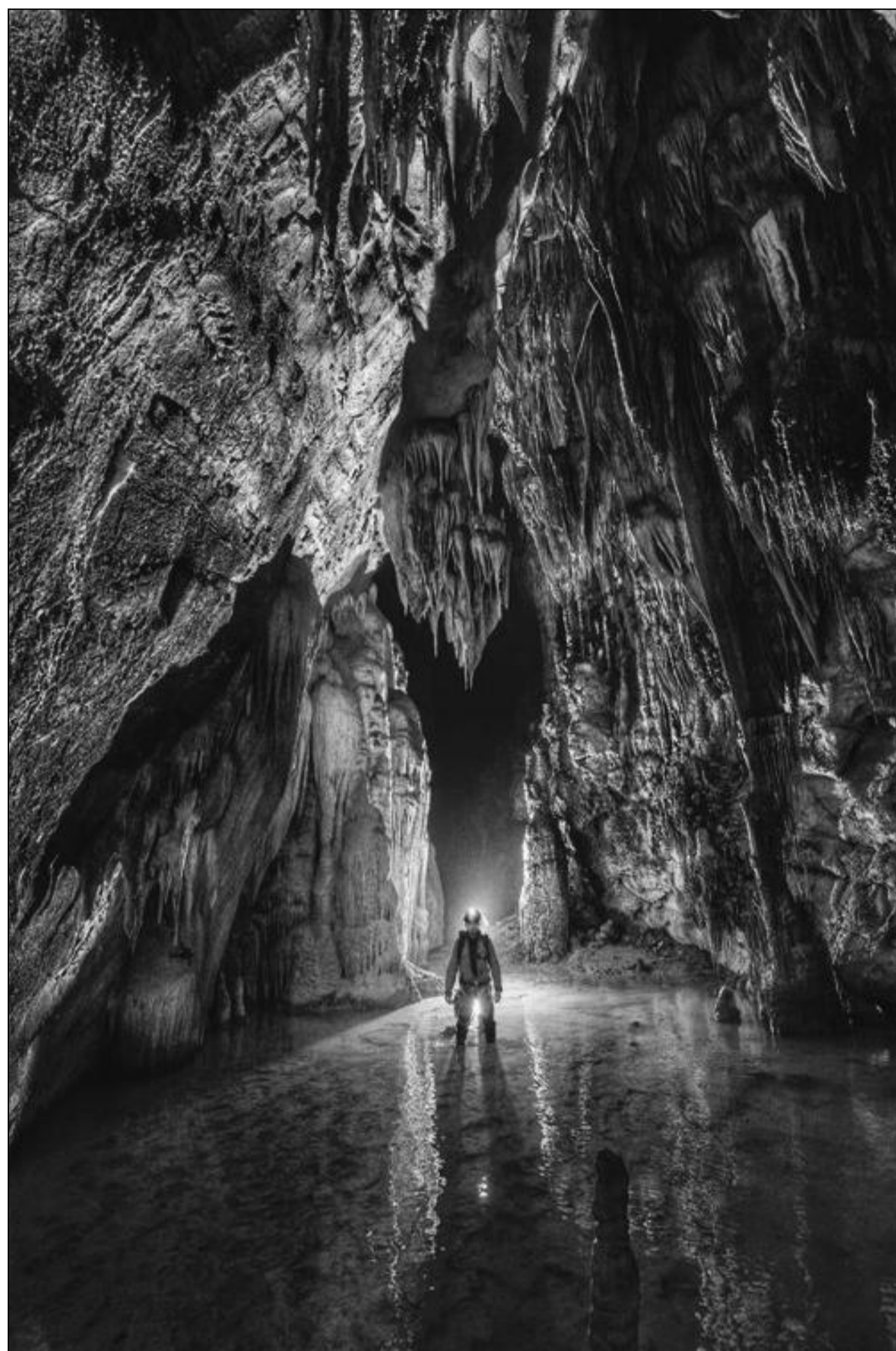
In 2013, Zhou embarked on his first official spelunking expedition and made his way to the Niudong cave at the junction of Qingzhen city and Zhijin county, Guizhou.

"The cave was like an alien planet, with its strange and complex geological environment, and I had to feel my way around by climbing and crawling," Zhou recalls.

When he came out, he was covered in mud. The trip also offered Zhou an opportunity to hone his spelunking skills, such as using a number of tools to move around the cave and taking pictures in the process.

"It's very important to get everything in and out safely," he says, adding that a slip-up might cause a tool to fall on teammates who may be hundreds of meters below him.

As his skills grew, Zhou joined a China-France team in 2014 and visited the Miaoting cave, categorized as the biggest of its kind, by volume, in the world. It was jointly detected



**Top left:** Zhou Yuanjie goes cave diving with his teammates in Tangbian village, Qingzhen city, Guizhou province, in November 2019. **Top right:** Zhou photographs a cliff climbing competition in Zhongshan district, Liupanshui city, Guizhou, in August 2020. **Top:** He and his teammates explore a tunnel behind a waterfall at Yangpi Cave, Guiyang city, Guizhou, in January 2020. **Above left:** He wades through an underwater cave in Qingzhen, in June 2017.

**Above right:** He climbs a cliff in Zhongshan district, Liupanshui, in August 2020. PHOTOS PROVIDED TO CHINA DAILY



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**Zhou Yuanjie**, 33, a spelunker based in Guizhou province who has explored over 40 caves

by Chinese and European scientists. Experts theorize that it is capacious enough that a Boeing 747 passenger plane could fly in it.

"The road to the cave is etched with gullies of differing heights, which is typical of the karst landform in Guizhou," Zhou says. They are the first challenge the spelunkers have to face.

"The ground is covered with green moss and is very slippery," he says. "You have to be there to see just how big the cave is."

Over the years, Zhou has made nine trips through different entrances to access the Miaoting cave.

Desire for more adventurous spelunking drove him to master technical diving and underwater photography. He also became a dive master certified by the world's leading scuba diver training organization, the Professional Association of Diving Instructors, headquartered in California.

## New findings

In February 2019, Zhou and a few of his spelunking friends went through the snorkeling plan for Miaoting cave and were the first to explore its underground stream.

They managed to bring back valuable images of a tunnel that runs 26 meters below the bed of the waterway, and discovered a new subspecies of cave bug, which has yet to be named.

"People like Zhou have helped offer scientific institutes locations and other clues about caves," says Qian Zhi, vice-president of the Guizhou Cave Association, which is affiliated to the mountain resources research institute of Guizhou Academy of Sciences.

Their cave explorations have helped raise the awareness of people about the need to protect the environment. For example, they remove trash they find during expeditions, such as plastic bags or bottles that may have drifted there from neighboring waterways and stayed in the cave.

Zhou says: "I remove trash from the caves if it's not big, but if there is too much waste, we usually gather it together, and report it to get it removed."

The trash they removed from the underground water areas in those caves and the films they made recording the details of the caves' interiors were of significant importance, Qian explains. The trash removal can help avoid water pollution, while the filming can uncover ancient murals before they are damaged by natural causes or human behavior.

Most of the large caves have been found in southwestern China, such as in Chongqing municipality, Yunnan and Sichuan provinces, Qian says.

To date, more than 6,000 caves have been located across Guizhou, and about 2,000 have been explored, he says.

About 200 caves in the province have been tapped for various purposes, such as for developing tourism.

The Shuanghe cave in Zunyi city's Wenquan town and Zhijin cave in Zhijin county, in Guizhou, have both evolved into tourism hot spots, creating job opportunities and a marked increase in local income, Qian says.

The consistent temperature has also made the caves ideal places for growing things like mushrooms or storing food and other supplies. "Of course, all those things need to be done under long-term supervision and analysis," Qian says.

Scientists can study meteorology, archaeology and hydrology through exploration of these caves.

"It's good that we've found an increasing number of young people like Zhou who have taken an interest in outdoor expeditions," Qian says. "They can play a positive role in urging the public to preserve the caves."

Earlier this year, Zhou became a full-time professional dive coach.

"I want to share my experiences and help more people to see the charm of outdoor adventures," Zhou says.

"The ability to overcome difficulty that is developed in the outdoors can be used to deal with setbacks in other areas of life."

In March, he registered an account on the short-video platform Douyin, known internationally as TikTok, which has so far attracted more than 800,000 followers.

"They seem very interested in the adventure stories and special geological images I display online," Zhou says.

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