

interested in the evolution and systematics of cave Collembola, a study which he continued for the next six plus decades.

In 1955, he accepted a faculty position at Grinnell College in Iowa, where he stayed for the rest of his career. He introduced generations of Grinnell students to caving in the caves of northeast Iowa, especially Hunters Cave and the caves of Maquoketa Caves State Park. The “big” one for most of us students, Hunters Cave, did not reach 1000 feet in length. It, however, big enough for several of us to catch the caving bug. It was also big enough to have an important place in cave ecology. Ken and his students, Mary Willson and Jerry Tecklin, published one of the very first studies of a cave ecosystem in the 1961 *NSS Bulletin*, and included data on temperature, relative humidity, organic carbon, and microdistribution of Collembola.

His caving career frequently took him to France, where he spent sabbaticals in 1962, 1967 and 1968 at the Laboratoire Souterrain in Moulis, then the leading research institution for subterranean biology. Until at least the mid 1970’s, he was the only North American with extensive contacts and collaborations in continental Europe.

His fame as a cave biologist comes from two sources. First, together with Tom Barr and Tom Poulson, he firmly established that the bizarre morphology of cave animals was the result of adaptation and natural selection, not just a loss and degeneration of characters, as was believed by many European cave biologists. In 1962, he wrote his only paper in French (of course that is one more than any other cave biologist from the U.S.), coining a new term for the suite of evolutionarily convergent features found in cave organisms—troglomorphy. This short paper, in an obscure journal, *Spelunca*, is a highly cited papers in cave biology, with over 100 citations. He followed this with many other papers on adaptation to cave life, including ones in the leading professional journal, *Evolution*.

His work on evolution of cave animals was more than matched by his work on the taxonomy of cave animals. There are approximately 60 species of cave Collembola known from U.S. caves and he described nearly 50 of them, many in the *Journal of Cave and Karst Studies*. During the course of his career, he described species from all the major genera of Collembola occupying North American caves—*Onychiurus*, *Pseudosinella*, *Pygmarrhopalites*, *Sinella*, and *Tomocerus*. Among his international works, that in China stands out. Following at stint as a Visiting Professor at Nanjing University in 1990, he wrote more than 20 papers with Chinese colleagues on the Collembola of China, including cave species.

With Peter Bellinger, he wrote two editions of the “The Collembola of North America north of the Rio Grande”, a four volume work which is more than 1500 pages in length. All in all, he wrote more than 120 papers and monographs.

During his six decades at Grinnell College, he took countless students caving, and he introduced a number of students to research in cave biology. He was an enthusiastic mentor to even the most unprepared student. He was also collaborator, mentor, and friend to generations of cave biologists, especially those that studied Collembola, and co-wrote papers with a number of them, including Chen, Culver, de Gama, Li, Palacios-Vargas, Wang, and Zeppelini.

For anyone who has met Ken, a recitation of his academic achievements does not do justice to his influence or his character. Ken was enthusiastic in his support both of intellectual areas of interest, like cave biology and Collembola, and in those of us who shared these interests. Ken never

claimed priority or seniority; he was the ideal colleague and mentor. He had an overall joie de vivre which infected those who came in contact with him. He had numerous interests outside of science, including acting in community theater, listening to opera, making wine, and studying history, especially military history. His enthusiasms and overall attitude are all the more remarkable for the many traumatic experiences in his wartime years, in a unit with high mortality. Without complaint or self pity, he kept these stresses and strains under control, with the support and understanding of his loving wife, Phyllis. I had the great fortune to be his student, colleague, and friend for more than 50 years. No one had a greater influence on me as a scientist or a person, and I am grateful to have known him. I am certainly not alone in this, and a little bit of Ken lives on in the best of each of us who knew him.

David C. Culver
NSS 9581



William “Bil” A. Phillips

NSS 26442

Bil Phillips was a well respected underwater cave explorer, cave diving instructor, and knowledgeable mentor to cave divers and underwater explorers for over 25 years. He made his home and caving business in Tulum Mexico nearest to the caves and the people he cared for most. An unexpected and short battle with cancer brought his long and distinguished career to an unfortunate end in November 2017. His death took all of his friends and colleagues by complete surprise.

As a native of Vancouver Canada, Bil worked for a refuse removal service. In time

he became known as a successful heavy construction contractor. With the contracting business growing, Bil grew quite fond of offshore SCUBA diving in the Vancouver area. His experience in coldwater diving, limited visibility, and diving in remote coastal and island areas attracted a circle of some of his closest friends. They who would eventually look to his expert diving counsel. This comradery challenged Bil personally. Diving as a hobby would soon develop into commitment to a lifelong professional career.

Bil explored the breadth of the Pacific Ocean as a SCUBA Instructor, experiencing many of this ocean’s most virgin and appealing reef environments. He moved to Thailand to be near their remote reefs. Summer temperatures would soar in Thailand, encouraging Bil to plan diving vacations to other world-class diving destinations. Eventually he found Belize, and then Quintana Roo Mexico to be to his new choice as a home. He left Thailand to embark on a new business on what was called the *Costa Turquesa*. Always keen to improve his skills Bil became a cave diver. His commitment to cave diving and cave diver training established his presence during the infancy of the Quintana Roo cave diving industry.

After a period of time as an employee in an Aventuras Akumal dive facility, Bil moved a few kilometers south to build a new adventure in Chemuyil. As the new owner of Speleotech, he hung his shingle as an expert and seasoned cave diving instructor and guide. His spirits soared in Chemuyil at this time. He made many friends from

around the world and taught many students. I don't believe Bil was ever happier or more content and productive than during this period in his life.

Bil would come to join a small team to explore the world's longest underwater cave in the world. Early explorations in sections of Ox Bel Ha were the result of yearly, multiple week exploration camps. Camping in the jungle, these projects focused the team on exploring and surveying specific areas in the Ox Bel Ha cave. Helicopters, compressors, human porters, horses, living arrangements and personal commitment enhanced both the team effort and the length of the cave. As a member of the Explorers Club, Bil was also rewarded by carrying an Expedition Flag during a Sistema Ox Bel Ha expedition.

My guess is that a number of the remote areas of Ox Bel Ha have not been visited by divers since. Unfortunately personal disagreements and philosophies surfaced among the original team members. Team explorations and team cohesion faltered dividing the core team into autonomous efforts. All members continue to explore this intricate cave maze. It is also remains a cave of many personalities. The exploration of Ox Bel Ha continues to this day. Bil still owes me some survey data.

Around 2010 Bil would move from Chemuyil to Tulum after constructing a larger dive and hotel complex in Tulum. The new Speleotech dive center was both a grand, yet bothersome labor for him. Bil was hesitant to make this move. But he felt the move into the mainstream of a growing local dive industry was key to Speleotech's future. The transition to the larger dive center demanded much from him.

Bil still ranged far into the Quintana Roo jungle searching for new cave to explore, especially if the cave might involve Sistema Ox Bel Ha or Sistema Sac Actun cave. He welcomed all his friends to help, explore and survey with him. He taught them the rudiments of survey and opened areas not often open to the occasional gringo. Bil insisted that all his team respect the new cave environment and its conservation.

Bil remained a loyal Explorers Club member for many years. Aside from his Flag Expeditions in Sistema Ox Bel Ha, he participated in the 2000 Explorers Club Flag Expedition Project Aguakan in Quintana Roo. Bil was also a member of the History Channel documentary, "Magellan's Lost Fleet" filmed in Patagonia, Argentina. This too was an Explorers Club Flag Expedition.

Bil developed an interest as an underwater cave cartographer. He was always a surveyor; he produced maps and sketched from Cuba, Belize and Quintana Roo Mexico caves. Bil and I managed to do a map or two together as well. He also served as a

committed Director for the Quintana Roo Speleological Survey (QRSS). He supported the QRSS initiative for nearly two decades. He saw the importance of complete underwater cave maps, as opposed to line plots. He understood that with maps in the right hands, cave maps are training aids and a means to teach students to reference the cave and not follow the guideline blindly. Complete cave maps were also the best media for cave divers to plan their forays. He also understood the need to archive cave

explorations in Quintana Roo as best as we could in the QRSS.

Bil was instrumental in the history of cave exploration and cave diving training in Quintana Roo Mexico. His voice for caution, a strong call for cave conservation, and his devotion to mentoring cave diver training will be sorely missed. His past students will miss him, while new cave divers will discover a legacy of his explorations in many remote cave areas.

Jim Coke



Michael Irvin Houpt

Michael Irvin Houpt (NSS 7786 and PSC 406) passed away on November 6th, 2017 at Ruby Memorial Hospital in Morgantown after an extended illness. Michael was born on April 13th, 1949, and was the son of Jesse V. and Virginia Long Houpt. He was raised in Franklin County, Pennsylvania. Michael lived the last forty-plus years in the Franklin, West Virginia area,

where he worked, was well known, and was recognized as a craftsman of hand-crafted jewelry in silver, gold, and copper. He also cut and set stones. Michael was also a musician. He loved to play his banjo and piano, and he loved bluegrass, mountain music, and hymns. He played for anyone who would listen, and he especially enjoyed playing in old-folks homes.

One of Michael's greatest loves was caving. From an early age he and some local friends looked for, explored, opened, and mapped caves. He was a member of the NSS, the York Grotto, Mercersburg Speleological Association, and an honorary member of a few more organizations. He had an incredible knowledge of caves in West Virginia, Virginia, Pennsylvania, and Maryland, and he attended many Old Timers, MAR events, and NSS conventions.

Michael's caving friends are essentially his family, and he was well known in all the activities mentioned above. More importantly, he was loved by people from all walks of life and always had time for anyone who needed a hand. It is an honor for this writer to have had Michael as a very close friend.

Chuck Kipe

