The karst area covers more than 50% of the Croatia and over 9000 caves are known in that area. Up till now only 64 anchialine caves are partially explored and/or described in the literature and our research group has information's about another 50. During history anchialine caves were very important because they were valuable source of drinkable water. The first information on an anchialine cave in Croatia was written by the Croatian geologist Josip Poljak in 1920. He described the cave “Urinjska špilja” near Rijeka, drew its topographical map, and reported that cave water was brackish. In 1950’s Stanko Karaman studied faunistically anchialine waters around Dubrovnik, including the cave Šipun in Cavtat. Since his first visit of the cave “Šipun” (1958), during 1960’s, till 1980’s significant research of anchialine caves along the Adriatic coast was conducted by Boris Sket from Ljubljana (Slovenia). Faunistically and ecologically explored have been more than 30 anchialine caves along the entire coast but mainly at the National Park Kornati Islands, beside the “Šipun” cave. This resulted in the later confirmed ecological scheme of the anchialine water bodies: salinity stratification, local oxygen depletion, and faunistic stratification by biotic exclusion. The first described snorkel dive in an anchialine cave was made by Bruno Puharić, in the “Urinjska špilja” cave in 1963. Few years after that, Rupert Riedel (Wien), investigated some submarine caves near Rovinj city and on the Krk Island. An important contribution to subsequent explorations was made by the geographer Ivo Baučić who in 1962 completed the list of caves on the Adriatic coast and islands. In the period between 1968 and 1975 geological and paleontological research of anchialine caves were made by Srećko Božićević and Mirko Malez, mainly on Lošinj, Cres and Rab Islands. Tonči Rada from Split investigated anchialine caves during 90’s and at the beginning of this century, sampling their fauna. Recent research of some anchialine caves was done on Hvar and Krk Islands by the Natural History Museum of Rijeka and the University of Zagreb.

Research became more intense after 2005 due to Branko Jalžić, who on the suggestion of Frano Kršinić from the Institute for Oceanography and Fisheries, started researching of anchialine caves along Croatian coast of the Adriatic Sea. In that period came into existence a multidisciplinary group interested in anchialine cave research. Extensive interdisciplinary field work and new data on water, sediment, and biota of anchialine cave environment was done by members of the Croatian Biospeleological Society, Croatian Natural History Museum and Rudor Bošković Institute. From this associate research, F. Kršinić described new genera and species of copepod crustaceans and V. Žic describe distribution of iodide and iodate in anchialine cave-waters.

In Croatia anchialine caves are mostly small and not interesting for speleological research. The longest one is 245 m long cave “Medvjeđa špilja” and the deepest is “Jama u Podstražišću” pit with 45 m deep dry part and over 50 m deep water column.
Most of the caves don’t have clear connection to the sea, but tides are more or less notable in all anchialine caves and in several caves occasionally a stream of fresh water flows over brackish and marine layers. Same caves, like cave “Medova buža”, have an open pathway to sea.

There are few very specific anchialine caves in Croatia. For instance, the cave “Rudnik kod Medveje” is of artificial origin. This cave is a former borehole which was drilled in search for drinkable water. The caves “Sumporača velika” and “Sumporača mala” are anchialine caves with elevated concentrations of sulfur. Water and mud from these caves were used for medical purposes during the past. Cave Orljak is unique anchialine cave at the Adriatic coast because it is connected to the estuarine (brackish) water and have low trace metal concentration. However, same caves like “Bjejajka” and “Lenga” have naturally elevated trace metals concentrations in water and sediment.

Some of the anchialine objects are interesting from a paleontological point of view like “Vrtare Male” Pit. This is one of the greatest finding sites of Pleistocene fauna, where the remnants of an elephant, horse, rhinoceros, lion, cave bear, wolf, deer, and a lot of micromammals and birds were excavated.

Anchialine caves are inhabited by phylogenetically and biogeographically interesting animal taxa. Deep-sea sponges are known from several localities. 21 various animal taxa was described from 7 anchialine caves: “Veštar”, “Jama iznad Vrulja”, “Jama Bač II”, “Živa voda”, “Supurina”, “Jama na Badiji”, and “Šipun”. The most remarkable is the cave “Šipun”, it is a type of locality with 14 animal taxa, 8 troglobionts, 2 troglophiles, and 4 stygobionts.

Underground habitats and species are extremely vulnerable and threatened by external influence. Because of that all speleological objects, as well as all subterranean fauna is strictly protected by the Croatian laws.