By mid-morning the first LAG caving trip of 1992 left Lubbock. Originally, the trip was scheduled the previous morning, but fresh snows prevented that departure. Waiting until the sun was high, we had no trouble with ice or snow on the roads but it cut our time short in the cave. While this was a return trip for two of our members, it was the first trip to this cave for James. Adding a physical experience to the details obtained in the 38-paged booklet "The River Styx - Salt Spring Cave systems" was in order. This booklet is suggested reading for any cavers not already familiar with this cave. It is number 1 of the Texas Cave Report Series, San Antonio, and was released in 1976.

Upon arriving at the Bateman Ranch, we like all responsible cavers, left a signed release with the land owners. As we drove up the drive to the house, Mr. Bateman came into view with a rifle. Fortunately, the rifle was intended for some other sport than shooting cavers. He proved to be quite friendly and helpful. He bid us good luck as we drove away to find the entrance to the cave. We all know "good luck" could have meant you are on your own as no one will drive past the cave entrance until the roads dry! Fortunately, Val's vehicle has four-wheel drive, so we were able to slosh and slide our way through the melting snow and mud. The last couple of miles of dirt (mud) road should not be attempted under such conditions without four-wheel drive. Our first attempt to locate the entrance failed (dirt roads are difficult to find and follow in the snow) and we had to backtrack a short distance to where we had seen a cowboy feeding some cattle. He got us back on the correct road and sent us on our way.

Because of the freezing conditions, we decided not to enter the cave by the water entrance (via the South Wichita River). Instead we slid into the opposite end of the cave at the "1963 Entrance." The first several feet of the cave were little warmer than the snow covered entrance. This was to change though as we found it quite warm further inside. Victor had brought along his sling-psychrometer so we were able to obtain a few meteorological readings. He found the temperature about 40 feet from the entrance to be 33 degrees F (about 80%RH) and 53 degrees F (about 93%RH) after about 250 feet. The surface temperature was recorded as 36 degrees F, at the end of the trip as it approached sunset (much warmer than the morning low in the 20's). Our reading of 53 degrees F was higher than we had expected. Data from "The River Styx-Salt Spring Cave System" indicated the temperature should have been much colder following a couple of weeks freezing and near-freezing surface temperatures. Apparently, the temperatures on the opposite end of the cave are warmer than those taken from the River Entrance areas. Our data are the first recorded from the southeastern sections of the cave. Although temperature readings were not taken further into the cave, we felt it was no cooler at least as far as the Dome Room. In fact it might have been a little warmer as one of us (James) had to remove a couple of layers of cloths to feel comfortable. Simultaneous temperature readings from throughout the cave during summer and winter...
would be interesting. Maybe some further expeditions could undertake such a project.

Vic's psychrometer needed oiling and made a loud screeching sound which was audible to humans for some distance. Apparently, the bats also heard this as a couple would fly by when Victor was twirling the device (or was it they knew of Victor's dislike of close contact with our furry friends). Several bats were observed that flew faster than sound. That is, Val and James would see the bat flying out of a passage where Victor was crawling shortly before we heard his gasp and moan.

We traveled (mostly crawling, a little stoop-walking, and one short passage of belly sliding) from the 1963 Entrance, through the Junction and Dome Rooms, and a short distance thereafter towards the Bat Rooms. A passage of cold water halted our advance in time to check our watches to see that we should start back-tracking. Ordinarily, this distance could be traveled in much less than the two hours it took us, but we were constantly stopping to look at the geology or collect invertebrates.

The melting snow over-head, made for dangerous conditions inside of the cave. The floors were often wet and the muds were slick. Luckily, no one slipped or fell. Upon entering the Dome Room and looking up, our geologists (Victor) noted how the ceiling was in bad condition and stated that he felt it would fall before long. Little did we know before long was only minutes! Just as we started to look under rocks for invertebrates at the sides of the room, a 5-10 pound rock fell from the center of the dome. This made quite a noise as the dome ceiling is high. We immediately gathered our wits and left the room. According to "The River Styx-Salt Spring Cave System", the dome had (in 1976) a 30 foot-high ceiling with a 18 foot-high breakdown mound. Our feeling (we did not make any measurements) was that the dome is now closer to 40 feet. Accurately re-measuring the ceiling and break-down heights and comparing them to the surface elevation would be another interesting project for a future expedition.

Large clumps of *Myotis velifer* bats were found in the cave with the greatest number being within a hundred feet of the entrance. Scattered throughout the cave were single *Pipistrellus subflavus* bats. This latter bat was especially beautiful when dew would collect on its fur and reflect the light back from our headlamps. While hundreds of bats were observed hanging by their hind legs, one *Myotis* was found lying on a shallow shelf at the roof-wall junction. We theorized that it was a particularly "smart" and "lazy" bat. Near the entrance we found a freshly killed *Myotis* in which a large hunk of the cardial region was removed. Although no rats or mice were seen, we suspect a rodent was the culprit. No other dead bats were observed in the southeastern section of the cave.

One other vertebrate was seen in the cave. The toad (*Bufo* sp.) was between the Junction and Dome Rooms. It was inactive and was not collected. Several species of toads occur in the region on the surface and are not normally part of the cave fauna.

Invertebrates were much more numerous than we had expected. Most of the specimens were collected alive and returned to Lubbock so that the larger specimens could be photographed and examined by James for parasites. We (especially James) had hoped to obtain further examples of the undescribed *Islandiana* spider and the troglobitic isopod that are thus far only known from River Styx Cave. These were not to be found. They are possibly restricted to the original collection site (bat room located on the northwest side of the cave).
Burrows of earthworms were evident in several areas with wet clay-mud floors. Val was lucky enough to collect two adult worms in a passage that was a little west of the Dome Room. These were photographed, preserved and await identification.

Shells of two species of snails were found by James in a small pile of dried debris which looked to have been washed into the cave. The debris consisted of small (all less than a third of an inch in length) chips/twigs of wood. The shells were saved for identification. One is evidently from an aquatic snail, *Physa* sp., whereas the second species is possibly a terrestrial form.

Cave crickets were the most obvious arthropods in the cave. We observed three distinct size classes (each about half of the size of the previous group). The largest-sized group was represented by an adult female *Ceuthophilus conicaudus* (Victor was only able to grab one of several individuals found in a crack on the roof about 250 feet into the cave). The other crickets were found scattered throughout the portion of the cave that was explored, mostly on the floor and under rocks. The middle-sized group is represented by an adult female *Ceuthophilus umbratilis* and subadults. The subadults are in captivity and James is trying to rear them to adulthood so that they can be identified. The smallest group was represented only by juveniles and they were not collected. This is the first record of *C. conicaudus* from River Styx Cave.

Victor proved to be the best beetle collector. He found a nice *Rhadine rubra* as well as a small, brown, Carabidae beetle which awaits further identification. These were both deep in the cave. The only other beetles were found dead within 50 feet of the entrance and were probably accidently trapped in the cave. These accidentals include the common surface Tenebrionidae, *Eleodes hispilabris*, and an unidentified Scarabaeidae.

The first Collembola known from River Styx Cave were collected and tentatively identified as *Pseudosinella* sp. These were observed (James was too slow to catch any) in the Junction Room and collected (primarily by Val) from bat guano covered rocks in an area about 25 feet east of the Dome Room. This latter spot proved good collecting for several other arthropods as well (including the *Rhadine*, a moth, and mites).

The moth collected (by our expert moth/beetle grabber- Victor) was a female Tineidae. Unfortunately, James made no pictures but the specimen was preserved and awaits identification. She laid several eggs in a jar and it is hoped that James will be able to rear them. Several other moths were seen in the cave but they could not be caught. These are the first moths recorded from River Styx Cave.

Two families of flies were collected in the cave. These are the first record of the order in River Styx Cave. A Mycetophilidae gnat was collected near the Junction Room and the second species from the cave (still unidentified) was collected a short distance west of the Dome Room on mud.

A sandwich bag full of bat guano was collected (thanks to Val) and returned to Lubbock where it was extracted with a Berlese funnel. Two species of mites were recovered and preserved. No other invertebrates (juveniles or otherwise) were observed in the Berlese sample.

A third species of mite (all juveniles) was found to be parasitic on adults of both species of cave crickets. The small mites were found attached to the areas around the thoracic spiracles.
Spiders were uncommon in the cave. A single male Cicurina varians was collected under a rock by James. Several darkly colored Centromerus sp. were also found under rocks. Eidmannella pallida was found primarily in webs located in cracks in the ceiling. Adults were taken of all three species and juveniles were obtained of all except the Cicurina.

On the way out of the cave, we paused for Val and James to take a few photographs of the bats. As we approached the twilight zone, a blue colored light could be seen coming through the cave entrance. The brightly colored sunset on a snow covered landscape was quite a contrast to the dark underground.

All in all, it was a near perfect trip - not one light, nor camera failed; no one was injured; the falling roof missed us; and hopefully our small party size had no detrimental effects on the roosting bats.