City of Austin, Austin Water Utility,

Wildland Conservation Division,

Balcones Canyonlands Preserve

Pipeline Cave Report 2019

By Colin Strickland



Ceuthophilus secretus in the East Room

Introduction

Pipeline Cave is located just north of Slaughter Creek and west of Mopac in Travis County. It is one of the 62 caves covered by the Balcones Canyonlands Conservation Plan (BCCP), a regional 10(a)1(B) permit issued by the U.S. Fish and Wildlife Service (USFWS) to the City of Austin (COA) and Travis County (TC) in May 1996 (USFWS 1996a). It received BCCP protection due to the presence of a rare species of cave millipede (Russel 1997). The property where it is located is privately owned, but through talks with Tim League (Founder/CEO of Alamo Drafthouse) and Melissa Beatty (Property Manager, Whitestone REIT) we have been given access to the site. An agreement is being developed to allow us to do the management work on their site including faunal surveys, cricket exit counts, fire ant treatment, and trash removal.

Description

The cave entrance is in a clump of trees just to the west of the Alamo Draft House. Pipeline Cave was gated by Mike Warton in 2011. The gate is in good shape. We removed the old lock and added a new lock. The Entrance Room is approximately 20 by 15 feet with 3 to 4 foot ceiling heights, with various stalactites, stalagmites and flowstone formations (See map: Figure 1). The cave was used as a ranch trash dump in the past, so the floor of the entrance room was covered in bottles, degraded metal cans that form a kind of rust soil, and other assorted trash mostly from the 50s and 60s. On the east side of the Entrance Room at floor level there is an opening in the flowstone that leads to the lower level. It is a bit of a corkscrew squeeze that I would recommend entering feet first. Before the gate was installed, the large amount of trash hiding this squeeze may have protected the lower level from visitation (Russel 1997). After the squeeze there is a climb down and then you reach the well decorated East Room with lots of flowstone formations and a mud floor. There is lots of trash and bottles mixed with the mud that has washed down from the upper level. The middle of the East Room has 10 ft ceiling heights and the eastern and southern portions have much lower ceiling heights that require crawling. If you go to the north end of the East Room, you can crawl up a flowstone incline into the West Room. The West room is about 20 feet long, and tall enough to stand in parts of it. The floor is composed of medium sized rocks scattered on a solid stone floor. This area is elevated above most of the water flow, so is relatively pristine with no mud or trash accumulation.

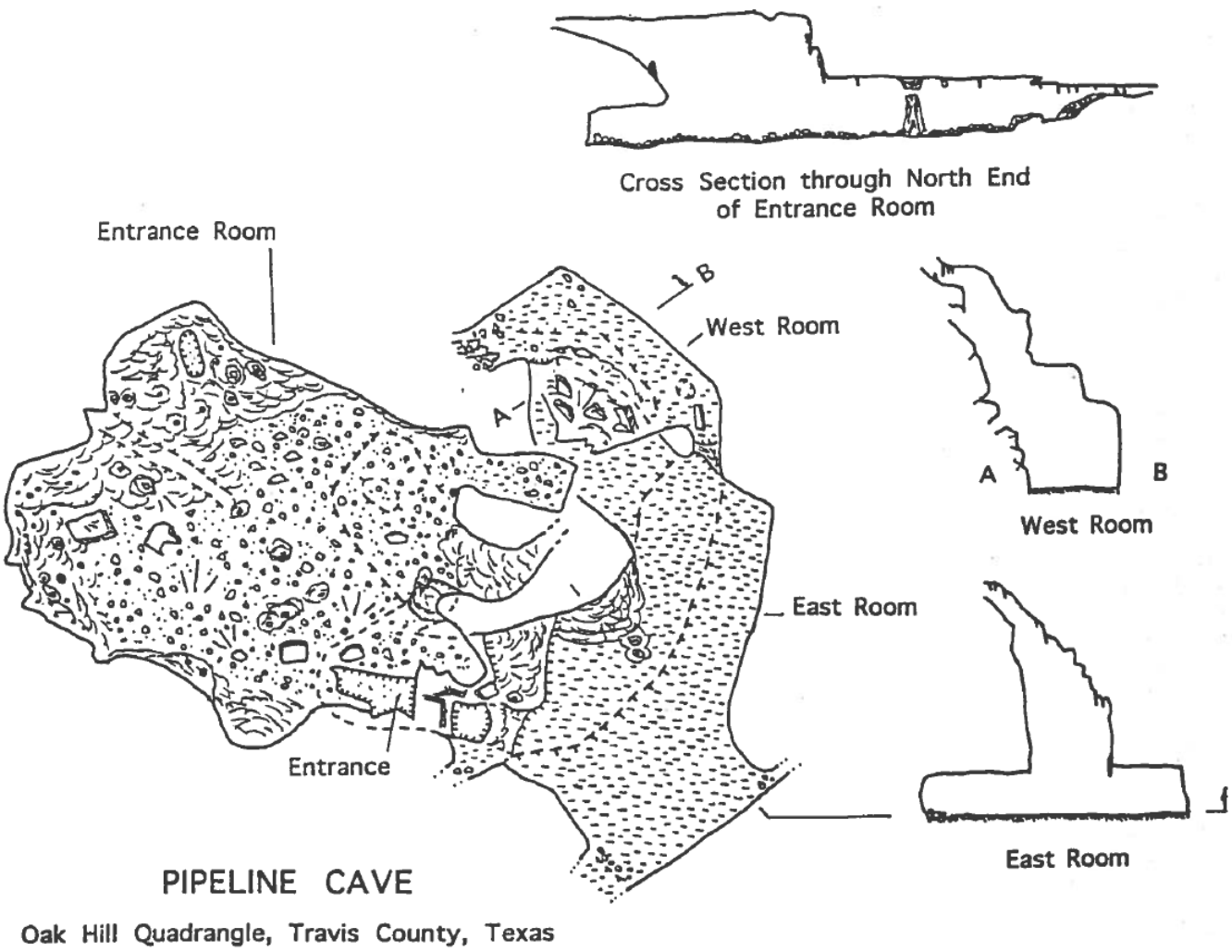

Figure 1. Map of Pipeline Cave, drafted by Bill Russel (Russel 1997)

Faunal Surveys

We have started doing biannual faunal surveys in Pipeline Cave. So Far, we have done surveys 8/21/2018, 11/29/2018, 1/17/2019, and 5/20/2019. We collected specimens and sent them to James Reddell. He has updated the Texas Speleological Survey (TSS) TexBio Faunal Records for Pipeline Cave. This has greatly increasing the number of known species in the cave (Figures 2 & 3). We will be working with James to add more records including raccoons and deer mice seen on game camera footage (Figures 4 & 5).

Pipeline Cave (Part 1)

KINGDOM: ANIMALIA
- **PHYLUM:** MOLLUSCA
  - **CLADE:** STYLOMMATOHORA
    - **Subclade:** Orthourethra
      - **Informal:** Group Sigmurethra
        - **Family:** Helicodiscidae
          - *?*Helicodiscus eigenmanni* Pilsbry
- **PHYLUM:** ANNELIDA
  - **CLASS:** OLIGOCHAETA
    - **Order:** Haplotaxida
      - *Undetermined
- **PHYLUM:** ARTHROPODA
  - **SUPERCLASS:** CRUSTACEA
    - **CLASS:** MALACOSTRACA
      - **SUBCLASS:** EUMALACOSTRACA
        - **Order:** Isopoda
          - **Suborder:** Oniscidea
            - **Family:** Armadillididae
              - *?*Armadillidium vulgare* (Latreille)
            - **Family:** Porcellionidae
              - *Undetermined genus and species
  - **SUPERCLASS:** CHELICERATA
    - **CLASS:** ARACHNIDA
      - **Order:** Scorpiones (scorpions)
        - **Family:** Vaejovidae
          - **Pseudouroctonus reddelli* (Gertsch and Soleglad) (Texas cave scorpion) (troglophile)
      - **Order:** Araneae (spiders)
        - **Infraorder:** Araneomorphae
          - **Family:** Leptonetidae
            - **?Tayshaneta* sp.
          - **Family:** Nesticidae (cave spiders)
            - **?Eidmannella* sp.
          - **Family:** Theridiidae (cobweb weavers)
            - **?Cryptachaea porteri* (Banks) (troglophile)
      - **SUBCLASS:** ACARI (mites and ticks)
        - Undetermined
        - **Order:** Opiliones (opilionids)
          - **Suborder:** Palpatores
            - **Family:** Sclerosomatidae (harvestmen)
              - **Subfamily:** Leiobuninae
                - **Leiobunum townsendii* Weed (trogloxene)
          - **Suborder:** Laniatores
            - **Family:** Phalangodidae
              - *?*Texella mulaiki* Goodnight and Goodnight (troglobite)
    - **CLASS:** DIPLOPODA (millipeds)
      - **Order:** Spirostreptida
        - **Family:** Cambalidae
          - *Cambala speobia* (Chamberlin) (troglobite)
      - **Order:** Polydesmida
        - **Suborder:** Polydesmidea
          - **Family:** Macrosternodesmidae
            - *Speodesmus* n.sp. 2 (troglobite)

Figure 2. TSS TexBio Faunal Records for Pipeline Cave (Part 1)
A ? means a questionable record (immature or unverified identification)
An asterisk (*) means a sight record
A *? means a questionable sight record identification

Pipeline Cave (Part 2)

SUPERCLASS: HEXAPODA
CLASS: COLLEMBOLA (springtails)
Order: Entomobryomorpha
Family: Lepidocyrtidae
*?*Pseudosinella violenta* (Folsom) (troglophile)
CLASS: DIPLURA (diplurans)
Order: Rhabdura
Family: Campodeidae (slender diplurans)
*Undetermined genus and species
CLASS: INSECTA
Order: Zygentoma (silverfish and allies)
Family: Nicoletiidae (subterranean silverfish)
**Texoreddellia* spp. (troglobite)
Order: Orthoptera (grasshoppers, crickets, and katydids)
Family: Rhaphidophoridae (camel and true cave crickets)
**Ceuthophilus* (*Ceuthophilus*) n. sp. B
**Ceuthophilus* (*Ceuthophilus*) *secretus* Scudder
**Ceuthophilus* (*Geotettix*) *cunicularis* Hubbell
Order: Psocoptera (booklice and barklice)
*Undetermined
Order: Coleoptera (beetles)
Suborder: Adephaga
Family: Carabidae (ground beetles)
**Rhadine austinica* Barr
Suborder: Polyphaga
Family: Staphylinidae (rove beetles)
*Undetermined genus and species
Subfamily: Pselaphinae
**?Batrisodes* sp.
Order: Lepidoptera (moths, butterflies, and skippers)
Suborder: Glossata
*Undetermined (moths)
Order: Diptera (flies)
Suborder: Nematocera
Family: Mycetophilidae (fungus gnats)
*?Undetermined genus and species
PHYLUM: CHORDATA
CLASS: AMPHIBIA
Order: Urodela (salamanders)
Family: Plethodontidae
**Plethodon albagula* Grobman (white-throated salamander) (troglophile)
Order: Anura (frogs and toads)
Family: Eleutherodactylidae
**Eleutherodactylus* (*Syrrhophus*) *marnockii* (Cope) (cliff chirping frog)

Figure 3. TSS TexBio Faunal Records for Pipeline Cave (Part 2)
A ? means a questionable record (immature or unverified identification)
An asterisk (*) means a sight record
A *? means a questionable sight record identification



Figure 4. Raccoons drinking from pools in East Room



Figure 5. Deer mouse in East Room

Trash removal

On 2/12/2019 we removed 13 bags of trash and 2 bags of unbroken bottles from the Entrance Room. Around two thirds of the glass bottles were recycled, the rest will be used to date the trash. Additional trash will need to be removed from the lower level. The contrast of before and after can be seen in the following photos (Figures 5, 6, & 7).

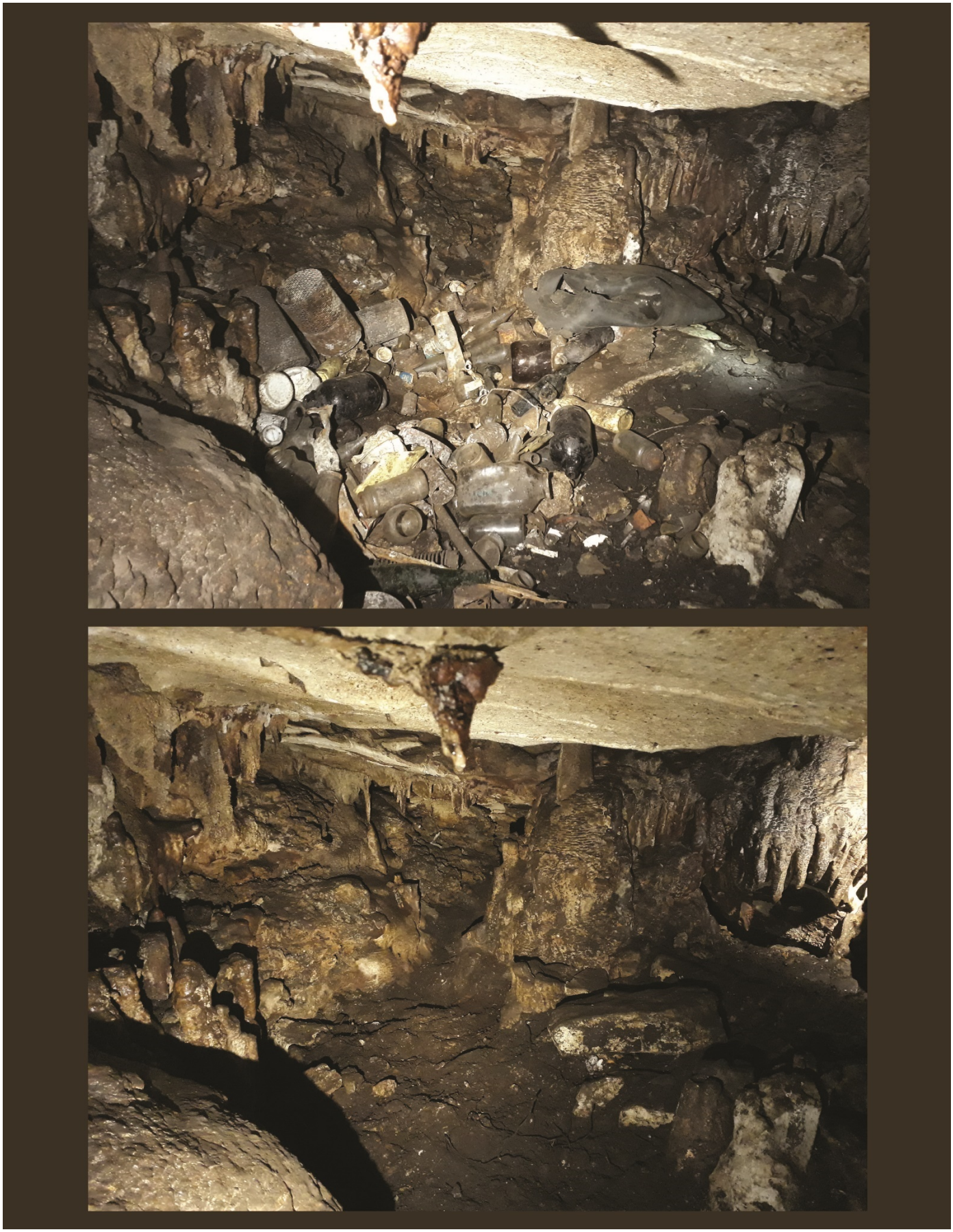

Figure 5. Before and after trash removal in Entrance Room, photos by Colin Strickland



Figure 6. Before and after trash removal in Entrance Room, photos by Colin Strickland



Figure 7. Before and after trash removal in Entrance Room, photos by Colin Strickland

Additional photos of fauna taken by Colin during faunal surveys (Figures 13 – 16)



Figure 13. *Texella mulaiki*, troglobitic harvestmen, photo by Colin Strickland



Figure 14. Symphypleona, globular springtail, photo by Colin Strickland



Figure 15. *Plethodon albagula*, Western Slimy Salamander, photo by Colin Strickland



Figure 16. *Rhadine austinica*, troglobitic ground beetle, photo by Colin Strickland

Literature Cited

Russell, William H. Pipeline Cave, A report to the BCP Karst Management Committee. Texas Cave Management Association, 1997.

U.S. Fish and Wildlife Service. 1996a. Federal Fish and Wildlife Permit No. PRT-788841.