FINAL REPORT

As Required by

THE ENDANGERED SPECIES ACT, SECTION 6

TEXAS
Grant No: E-1-5

ENDANGERED AND THREATENED SPECIES CONSERVATION

Job No. 54

Geologic and Biologic Investigation of Potential Habitat for Potentially Endangered Karst Fauna in Bexar County, Texas

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November 30, 1993

Performance Report

State: Texas **Grant No.:** E-1-5

Grant Title: Geologic and Biologic investigation of potential habitat for endangered karst fauna in Bexar County, Texas.

Time Period: 1 September 1992 - 31 August 1993

Project No.: 54

Project Objective: To geologically delineate the probable ranges and constraints on the distribution of nine species of arthropod (one with two subspecies) from Bexar County caves submitted for endangered listing on 9 January 1992, and to determine the actual distribution of these species.

Segment Objectives: To finalize maps and reports assessing geologic factors, such as stratigraphy, structure, hydrology, and karst evolution, to determine the constraints on the distribution and migration of the candidate species, and the probability of those species occurring in areas which have not been biologically investigated.

ACCOMPLISHMENTS

See Attachments 1 and 2

SIGNIFICANT DEVIATIONS

None

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Date

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APPROVED BY: for Larry D. McKinney, Ph.D. 11-30-93
Date
Director, Resource Protection Division

ATTACHMENT 1

Report entitled "Geologic controls on cave development and the distribution of endemic cave fauna in the San Antonio, Texas, region" was previously submitted to the U.S. Fish and Wildlife Service

ATTACHMENT 2

The status and range of endemic arthropods from caves in Bexar County, Texas

THE STATUS AND RANGE OF ENDEMIC ARTHROPODS FROM CAVES IN BEXAR COUNTY, TEXAS

A Report on a Study for the

United States Fish and Wildlife Service
and
Texas Parks and Wildlife Department

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October 25, 1993

THE STATUS AND RANGE OF ENDEMIC ARTHROPODS FROM CAVES IN BEXAR COUNTY, TEXAS

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THE STATUS AND RANGE OF ENDEMIC ARTHROPODS FROM CAVES IN BEXAR COUNTY, TEXAS

James R. Reddell

SUMMARY

The present report includes descriptions of all new caves investigated as part of the present study. It also includes descriptions of all caves known or reported to contain the petitioned species of karst invertebrates.

An attempt was made to obtain permission to visit all caves known to contain the petitioned species and to visit as many other caves as possible that seemed likely to contain the species. Permission could not be obtained for Helotes Hilltop Cave and Helotes Blowhole. Cave of the Woods has been filled. Braken Bat Cave was reported by the owner to now be filled. Permission to enter Genesis Cave came too late because of bad air in the summer months.

The illness of Dr. Willis J. Gertsch, the specialist on spiders, has delayed indefinitely determination of the blind spiders obtained during the study. An attempt is now underway to find an alternate specialist.

The following is a summary of the significant findings:

1. Eyeless *Texella* harvestmen were found in three additional caves: Logan's Cave, Robber's Cave, and Young Cave No. 1. Additional specimens of *Texella* were also found in John Wagner Ranch Cave No. 3. Further study will be required to determine if this material belongs to *Texella cokendolpheri* Ubick and Briggs, but preliminary indications that .*T. cokendopheri* is restricted to Robber Baron Cave.

2. A short-legged eyed *Texella* harvestman was found in Young Cave No. 1. This is the first eyed *Texella* in Bexar County. Its ecological status will require study of the specimens.

3. The first troglobitic pseudoscorpions in Bexar County were found. An undescribed species of the genus *Tyrannochthonius* was found in Wurzbach Bat Cave. The first record of the troglobitic genus *Tartarocreagris* outside Travis, Williamson, and Burnet Counties was found. This undescribed species was collected in Mattke Cave. Undetermined specimens from Young Cave No. 1 may represent additional specimens of troglobite but await study.

4. A new species of troglobitic centipede possibly belonging to the genus *Theatops* was found in Robber Baron Cave. This genus includes one described and at least two undescribed troglobites in Texas caves.

5. New populations of *Rhadine exilis* (Barr and Lawrence) were found in Christmas Cave, Government Canyon Bat Cave, Logan's Cave, Mastodon Pit, Robber's Cave, Three-Fingers Cave, and Young Cave No. 1.

6. New populations of *Rhadine infernalis* (Barr and Lawrence) were found in Caracol Creek Coon Cave, Christmas Cave, Game Pasture Cave No. 1, Isopit, Kamikazi Cricket Cave, King Toad Cave, Logan's Cave, Madla's Drop Cave, Mattke Cave, Robber's Cave, Scorpion Cave, and Three-Fingers Cave. The new populations of this species should allow a better determination of the validity of the two subspecies, originally described from very limited material.

7. The second known specimen of *Batrisodes (Excavodes) venyivi* was found in Christmas Cave.

8. New populations of several other groups have helped to outline the distribution of these species, at least some of which may eventually prove to be suitable candidates for endangered species listing.

9. All caves visited were carefully evaluated as to threats to the cave fauna from development, fire ants, and other causes.

INTRODUCTION

Nine species (one with two subspecies) of karst invertebrate were petitioned for endangered species listing in 1992. At that time several of the species were unnamed. The descriptions of the new species were published in 1992. These species and their distribution at the time of petitioning are: *Cicurina (Cicurella) baronia* Gertsch, 1992 (Araneae: Dictynidae) from Robber Baron Cave; *Cicurina (Cicurella) madla* Gertsch, 1992 (Araneae: Dictynidae) from Madla's Cave; *Cicurina (Cicurella) venii* Gertsch, 1992 (Araneae: Dictynidae) from Braken Bat Cave; *Cicurina (Cicurella) vespera* Gertsch, 1992 (Araneae: Dictynidae) from Government Canyon Bat Cave; *Neoleptoneta microps* (Gertsch, 1974) (Araneae: Leptonetidae) from Government Canyon Bat Cave; *Texella cokendolpheri* Ubick and Briggs, 1992 (Opilionida: Phalangodidae) from Robber Baron Cave and possibly John Wagner Ranch Cave No. 3; *Rhadine exilis* (Barr and Lawrence, 1960) (Coleoptera: Carabidae) from a small cave 0.5 mi. N of Helotes, Black Cat Cave, Headquarters Cave, and John Wagner Ranch Cave No. 3; *Rhadine infernalis ewersi* (Barr, 1960) (Coleoptera: Carabidae) from Headquarters Cave; *Rhadine infernalis infernalis* (Barr and Lawrence, 1960) (Coleoptera: Carabidae) from John Wagner Ranch Cave No. 3 and Madla's Cave; and *Batrisodes (Excavodes) venyivi* Chandler, 1992 (Coleoptera: Pselaphidae) from Helotes Hilltop Cave. A possible hybrid between *Rhadine infernalis ewersi* and *Rhadine infernalis infernalis* was also reported from Government Canyon Bat Cave (Barr, 1964). Additional populations of *Rhadine* not positively identified at the time of petitioning were known from the following caves: Cave of the Woods, Kamikazi Cricket Cave, Caracol Creek Coon Cave, Genesis Cave, Helotes Blowhole, Isopit, and Wurzbach Bat Cave.

Veni (1988) described all known caves in Bexar County. This study also included a listing by Reddell (1988) of the subterranean fauna of Bexar County. At that time 207 caves were known in the county. That number has now increased to more than 300. Reddell (1988) records a minimum of 186 species from Bexar County caves and phreatic waters. Of those 27 aquatic and 17 terrestrial species were considered troglobitic. The present report includes at least 216 species, of which 22 aquatic and 26 terrestrial species are troglobites. The reduction in number of aquatic species is the result of additional taxonomic work on some groups. Table 1 lists all species of troglobite in Bexar County.

ACKNOWLEDGMENTS

I thank the following specialists for their assistance in identifying material collected during the course of this study: Mr. James C. Cokendolpher (ants), Lubbock, Texas; Dr. Lee H. Herman (staphylinid beetles), American Museum of Natural History, New York, New York; Dr. William B. Muchmore (pseudoscorpions), University of Rochester, Rochester, New York; Mr. Darrell Ubick (harvestmen), California Academy of Sciences, San Francisco,

California.

I am especially grateful to George Veni for his assistance in obtaining permission, locating caves, assisting in field work, and general expertise on Bexar County caves and geology. He is particularly thanked for permission to use unpublished descriptions of several caves. Special thanks go to Marcelino Reyes for his assistance in all of the field work in Bexar County and in labelling and processing specimens for shipment to specialists. Thanks also go to David Bowles, Andy Grubbs, Scott Harden, James Loftin, and Ruth Stanford for their help in the field work. James Loftin was especially helpful in obtaining access to several caves. Scott Harden assisted in identifying the *Rhadine* beetles.

Finally, the owners are collectively thanked for their permission to study caves on their property.

BIOLOGICAL RESULTS

The following discussion of finds made on the project are highly preliminary because of delays in obtaining identifications. Because of the lack of taxonomists in particular groups the author of this report has been forced to study several groups for which he has limited expertise. See Table 1 for a list of Bexar County troglobites. Specific localities may be found in Appendix 1.

Veni (1993) has divided the area studied during this project into four karst regions based on geological processes and formations. One of these, the Helotes region, has been subdivided into the Helotes area, UTSA area, and Government Canyon area, for purposes of faunal distributional analyses. Other areas will be defined as biological study is extended into them. Caves were visited in each of these regions, but study in some was severely limited by inability to gain access. Veni (1993) should be consulted for the factors affecting distribution in each region. All caves discussed in this report are marked on Fig. 1, p. 66.

STONE OAK AREA

Five caves were visited in this area: Black Cat Cave, Elmore Cave, Headquarters Cave, Poison Ivy Pit, and Sink Hole. Only Black Cat Cave and Headquarters Cave offer a variety of habitats suitable for a diverse fauna. Elmore Cave and Poison Ivy Pit both contain troglobites and may produce a more significant fauna with further study. Elmore Cave was extremely heavily infested with fire ants and a single live specimen of *Speodesmus* millipede was found. Parts of two other specimens were recovered from the ants. No aquatic troglobites are known from this area. The following terrestrial troglobites occur: isopods probably belonging to the genus *Brackenridgia*, the spiders *Cicurina (Cicurella)* sp., *Eidmannella rostrata*, undetermined harvestmen of the genus *Hoplobunus*, *Hoplobunus madlae*, the millipedes *Cambala speobia* and *Speodesmus* sp., the silverfish *Texoreddellia texensis*, and the ground beetles: *Rhadine* sp. cf. *speca*, *Rhadine exilis*, and *Rhadine infernalis ewersi*.

UTSA AREA

Twelve caves were visited in this area: B. J. Pit, Cave With A View, Jessica's Pit, John Wagner Ranch Cave No. 3, Kamikazi Cricket Cave, Lost Mine Trail Cave, Mastodon Pit, Mattke Cave, Robber's Cave, Scorpion Cave, Three Fingers Cave, What's This, A Cave. B. J.

Pit, Cave With A View, Lost Mine Trail Cave, and What's This, A Cave contained no cave-adapted species. No aquatic troglobites occur in this area. The following terrestrial troglobites occur: isopods probably belonging to the genus *Brackenridgia*, the spider *Cicurina (Cicurella)* sp., the pseudoscorpion *Tartarocreagris* new species, the harvestmen *Hoplobunus* sp., *Texella* sp., and *Texella* sp., cf. *cokendolpheri*, the millipedes *Cambala speobia*, *Speodesmus* sp., and *Speodesmus* new species 1, subterranean silverfish tentatively identified as *Texoreddellia texensis*, and the ground beetles *Rhadine exilis* and *Rhadine infernalis infernalis*. Spiders tentatively identified as *Neoleptoneta* sp. may also be troglobitic but await study.

HELOTES AREA

Six caves were investigated in this area: Christmas Cave, Logan's Cave, Madla's Cave, Madla's Drop Cave, Young Cave No. 1, and Young Cave No. 2. The entrance to Young Cave No. 2 was blocked by washed-in debris and will require minor excavation to enter. Its small size and likelihood of heavy fire ant infestation was determined not to warrant attempts to reopen it. No aquatic troglobites occur in this area. The following terrestrial troglobites occur: the isopod *Brackenridgia cavernarum*; the spiders *Cicurina (Cicurella)* sp., *Cicurina (Cicurella) madla*, and *Eidmannella rostrata*; the harvestmen *Hoplobunus* sp., *Hoplobunus madlae*, and *Texella* sp. 1; the millipedes *Cambala speobia*, *Speodesmus* sp. and *Speodesmus* new species 1; the subterranean silverfish *Texoreddellia texensis*; the ground beetles *Rhadine exilis* and *Rhadine infernalis infernalis*; and the mold beetle *Batrisodes (Excavodes) venyivi*. Two species of pseudoscorpion and a small-eyed *Texella* harvestman may also be troglobites.

GOVERNMENT CANYON AREA

Two caves were investigated in this area: Government Canyon Bat Cave and World News Cave. World News Cave was found to be completely overrun with fire ants and had no cave-adapted fauna. Government Canyon Bat Cave contains the following troglobites: isopods probably belong to the genus *Brackenridgia*; the spiders *Cicurina (Cicurella) vespera* and *Neoleptoneta microps*; the millipedes *Cambala speobia* and *Speodesmus* new species 1; and the ground beetles *Rhadine exilis* and *Rhadine infernalis*.

ALAMO HEIGHTS AREA

Most of the caves in this area have been covered by development. The only cave visited during this study is Robber Baron Cave. Bait was placed in the cave in hopes of rediscovering some of the rare species, but a return trip was unsuccessful in either adding to the known fauna or discovering any of the endemic species, with the exception of the spider *Cicurina (Cicurella) baronia*. A collection on another date by James Loftin resulted in the discovery of a probably new species of troglobitic centipede of the genus *Theatops*. The following troglobites are known from the cave: the isopods Trichoniscidae ?new genus and species and ?*Brackenridgia* sp.; the spiders *Cicurina (Cicurella) baronia* and *Eidmannella rostrata*; the harvestman *Texella cokendolpheri*; the centipede ?*Theatops* new species.; the millipedes *Cambala speobia* and *Speodesmus* new species 2; the earwiglike entotroph *Mixojapyx reddelli*; the subterranean silverfish *Texoreddellia texensis*; and the mold beetle *Batrisodes* sp.

TABLE 1
TROGLOBITES OF BEXAR COUNTY

Aquatic

Snails:

Phreatodrobia conica Hershler and Longley
Phreatodrobia imitata Hershler and Longley
Phreatodrobia nugax (Pilsbry and Ferriss)
Phreatodrobia nugax inclinata Hershler and Longley
Phreatodrobia nugax nugax (Pilsbry and Ferriss)

Copepods

* *Cyclops* sp. 1
* *Cyclops* sp. 2

Thermosbaenaceans

Monodella texana Maguire

Amphipods

Bogidiellidae ?undescribed genus and species
Parabogidiella (?) new species
Parabogidiella americana Holsinger
Stygobromus flagellatus (Benedict) (POSSIBLE MISIDENTIFICATION)
Stygobromus russelli (Holsinger)
Allotexiweckelia hirsuta Holsinger
Texiweckelia texensis Holsinger
Texiweckeliopsis insolita (Holsinger)

Isopods:

Cirolanides texensis Benedict
Speocirolana hardeni Bowman
Mexistenasellus coahuila Cole and Minckley

Shrimps:

Palaemonetes antrorum Benedict

Fishes:

Satan eurystomus Hubbs and Bailey
Trogloglanis pattersoni Eigenmann

Salamanders:

Eurycea tridentifera Mitchell and Reddell

Terrestrial

Isopods:

Trichoniscidae ?undescribed genus and species
Brackenridgia cavernarum Ulrich

Spiders:

***Cicurina (Cicurella) baronia* Gertsch**
***Cicurina (Cicurella) madla* Gertsch**
***Cicurina (Cicurella) venii* Gertsch**
***Cicurina (Cicurella) vespera* Gertsch**
***Neoleptoneta* ?new species**
***Neoleptoneta microps* (Gertsch)**
Eidmannella rostrata Gertsch

Pseudoscorpions:

***Tyrannochthonius* ?new species**
***Tartarocreagris* new species**

Harvestmen:

Hoplobunus madlae Goodnight and Goodnight

***Texella* sp. 1**

***Texella* sp. 2**

***Texella cokendolpheri* Ubick and Briggs**

Centipedes:

***Theatops* new species.**

Millipedes:

Cambala speobia (Chamberlin)

***Speodesmus* new species 1**

***Speodesmus* new species 2**

Speodesmus echinourus Loomis

Earwiglike entotrophs:

Mixojapyx reddelli Muegge

Subterranean silverfish:

Texoreddellia texensis (Ulrich)

Ground beetles:

Rhadine sp. cf. *speca* (Barr)

***Rhadine exilis* (Barr and Lawrence)**

***Rhadine infernalis ewersi* (Barr)**

***Rhadine infernalis infernalis* (Barr and Lawrence)**

Mold beetles:

***Batrisodes* ?new species**

***Batrisodes (Excavodes) venyivi* Chandler**

NOTE: * indicates ecological status is uncertain but the species is probably a troglobite.
indicates that in Bexar County the species is known only from phreatic waters.
Bold face = terrestrial species endemic to Bexar and adjacent Medina County.

CULEBRA ANTICLINE AREA

Fourteen caves were studied in this area: Caracol Creek Coon Cave, Cave of the Skinny Snake, Droll Cave, Forked Pit Cave, Game Pasture Cave No. 1, Grave Marker Cave, Isopit, King Toad Cave, Linda's First (Cave Find), Pot-Bellied Stove Cave, Stevens Ranch Cave No. 1, Stevens Ranch Trash Hole Cave, The Two Raccoon Cave, and Wurzbach Bat Cave. All are characterized by seasonal bad air and collections were limited in several caves because of this. No troglobites were found in Cave of the Skinny Snake, Pot-Bellied Stove Cave, or Stevens Ranch Cave No. 1. Most of the caves were heavily infested with fire ants in the entrance area. Two aquatic troglobites have been found in Isopit: the amphipod *Stygobromus russelli* and the isopod *Cirolanides texensis*. The following terrestrial troglobites are known: the isopod ?*Brackenridgia* sp.; the spiders *Cicurina (Cicurella)* sp. and *Eidmannella rostrata*; the pseudoscorpion *Tyrannochthonius* ?new species; the harvestmen *Hoplobunus* sp. and *Hoplobunus madlae;* the millipedes *Cambala speobia* and *Speodesmus* sp.; the subterranean silverfish *Texoreddellia texensis*; and the ground beetle *Rhadine infernalis*.

STATUS AND THREATS TO SPECIFIC CAVES

B. J. Pit: Heavy fire ant infestation.

Black Cat Cave: Heavy fire ant infestation; entrance is in cleared area for widening of Bulverde Road.

Braken Bat Cave: Entrance was filled with rocks in about 1990.

Caracol Creek Coon Cave: Heavy fire ant infestation; in an area proposed for development.

Cave of the Skinny Snake: Fire ant infestation.

Cave of the Woods: Cave is under 7 m of rocks and dirt.

Cave With A View: No obvious threats.

Christmas Cave: Fire ants in entrance area; much rusting metal up to 13 m from entrance.

Droll Cave: Fire ant infestation. The ranch containing the cave is scheduled to be taken over by the Resolution Trust Corporation (RTC) in December.

Elmore Cave: Very heavy fire ant infestation; cave is an area being developed.

Forked Pit Cave: No obvious threats. The ranch containing the cave is scheduled to be taken over by RTC in December.

Game Pasture Cave No. 1: No obvious threats. The ranch containing the cave is scheduled to be taken over by RTC in December.

Genesis Cave: Cave is in an area set aside as a preserve.

Government Canyon Bat Cave: Cave is in state natural area; fire ants in entrance area.

Grave Marker Cave: Fire ant infestation. The ranch containing the cave is scheduled to be taken over by RTC in December.

Headquarters Cave: Cave is gated; much trash in cave; a clean-up is scheduled.

Helotes Blowhole: Not visited during this project.

Helotes Hilltop Cave: Not visited during this project; in past heavily infested with fire ants.

Isopit: Cave was filled in about 1985 by drilling mud; has washed out now, but cave is behind house and could be subject to pollution by herbicides, pesticides, and fertilizers.

Jessica's Pit: Heavily infested with fire ants.

John Wagner Ranch Cave No. 3: Heavy fire ant infestation; frequently visited by locals with resultant trash and vandalism.

Kamikazi Cricket Cave: Fire ant infestation in entrance area.

King Toad Cave: No obvious threat. The ranch containing the cave is scheduled to be taken over by RTC in December.

Linda's First (Cave Find): No obvious threat. The ranch containing the cave is scheduled to be taken over by RTC in December.

Logan's Cave: Fire ant infestation in entrance area.

Lost Mine Trail Cave: In area scheduled for expansion of the University of Texas at San Antonio campus.

Madla's Cave: Occasionally visited; but otherwise no obvious threat.

Madla's Drop Cave: Very heavy fire ant infestation.

Mastodon Pit: Fire ant infestation; in area scheduled for expansion of the University of Texas at San Antonio campus.

Mattke Cave: No obvious threat.

Poison Ivy Pit: Fire ant infestation; on lot in area being developed.

Pot-Bellied Stove Cave: Very heavy fire ant infestation; fire ant mound at bottom of entrance pit. The ranch containing the cave is scheduled to be taken over by RTC in December.

Robber Baron Cave: Cave is gated, but attempts to find millipedes, mold beetles, and harvestmen have been unsuccessful in recent years. Cave crickets are virtually absent from cave probably as a result of pesticide use in lawns in cave area.

Robber's Cave: Heavy fire ant infestation; cave is currently used as an occasional trash dump by locals and is becoming vandalized.

Scorpion Cave: Heavy fire ant infestation; trash in entrance room.

Stevens Ranch Cave No. 1: Heavy fire ant infestation; cave is filling with sediment from nearby cleared fields. The ranch containing the cave is scheduled to be taken over by RTC in December.

Stevens Ranch Trash Hole Cave: Cave used for many years as a trash dump. The ranch containing the cave is scheduled to be taken over by RTC in December.

Three-Fingers Cave: Heavy fire ant infestation in entrance room; in an area scheduled for development.

The Two Raccoon Cave: Fire ant infestation. The ranch containing the cave is scheduled to be taken over by RTC in December.

What's This, A Cave: No obvious threat.

World News Cave: Very heavy fire ant infestation.

Wurzbach Bat Cave: Very heavy fire ant infestation; cave is gated, but gates not best design.

Young Cave No. 1: Very heavy fire ant infestation. Cave is in an area opened for development.

CONCLUSIONS AND RECOMMENDATIONS

Intensive fire ant control measures should be initiated around the entrances to all of the caves. Those caves containing endemic species that lie in areas threatened by development should be hydrogeologically studied to determine the size and configuration of preserve areas around the caves.

Cave of the Woods is filled.

The following caves do not contain or appear to have habitat for troglobites: B. J. Pit, Cave With A View, Sink Hole, and What's This, A Cave.

Lost Mine Trail Cave did not have troglobites, but excavation is likely to lead into a cave with habitat.

The following caves did not contain endemic fauna but should be reinvestigated in winter or spring: Cave of the Skinny Snake, Droll Cave, Forked Pit Cave, Grave Marker Cave, Jessica's Pit, Linda's First (Cave Find), Pot-Bellied Stove Cave, Stevens Ranch Cave No. 1, The Two Raccoon Cave, and World News Cave.

The entrance to Black Cat Cave is in the cleared area for widening of Bulverde Road. The road should be realigned to protect the cave entrance and the area around the entrance bermed to prevent runoff from the road entering the cave.

Braken Bat Cave should be re-opened and use of chemicals in the cleared area around the cave stopped if they are being used.

The rusting metal and other trash in Christmas Cave should be removed and a more ecologically sound gate installed to replace the metal door now in place.

Vegetation should be cleared around the entrance to Government Canyon Bat Cave to make it more accessible for bats.

Trash should be removed from Headquarters Cave.

The owner has stated that he does not use chemicals in the drainage area of Isopit, but drainage comes from a neighboring yard and that owner should be contacted to discourage use of chemicals.

The virtual loss of the cave cricket population at Robber Baron Cave places the cave fauna in considerable jeopardy. The failure to find several of the species in recent years indicates that the populations, if not completely extinct are considerably reduced. I propose that organic matter known to be free of fire ants and chemicals be placed in areas of the cave where fauna was previously found. This should be followed by a careful monitoring program to determine if the fauna has recovered. The question of modifying the bunker-type gate protecting the cave should be carefully evaluated. The proposal to open drains at the bottom of the gate may not be a satisfactory solution since most of the runoff into the cave comes directly from Nacogdoches Road.

Trash should be removed from Robber's Cave and an ecologically sound gate placed on it to prevent unauthorized entry and trash dumping.

Trash should be removed from Scorpion Cave.

Trash should be removed from Stevens Ranch Trash Hole Cave.

The access gate into Wurzbach Bat Cave should be replaced with an open grill gate that will allow leaf litter to enter the cave. The bat gate should be evaluated by a bat biologist to determine if it is satisfactory. It may be desirable to trim vegetation above the large sinkhole entrance to make entrance by bats easier, but this should be done by a bat biologist.

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APPENDIX A
THE SUBTERRANEAN FAUNA OF BEXAR COUNTY, TEXAS

PHYLUM PLATYHELMINTHES
CLASS TURBELLARIA
Order Tricladida (flatworms)
Suborder Terricola

Undetermined material (accidental)
Record.—Kamikazi Cricket Cave.

PHYLUM MOLLUSCA
CLASS GASTROPODA (snails)

Undetermined material
Records.—Intermittent spring near Leon Springs; springs along San Antonio River; Assassin Cave; Black Cat Cave; Cave of the Skinny Snake; Cave With A View; Christmas Cave; Cub Cave; Droll Cave; Elmore Cave; Game Pasture Cave No. 1; Genesis Cave; Government Canyon Bat Cave; Headquarters Cave; Hills and Dales Pit; Isopit; John Wagner Ranch Cave No. 3; Kamikazi Cricket Cave; Logan's Cave; Madla's Drop Cave; Mastodon Pit; Mattke Cave; Olive Pit; Pick-up Sticks Cave; Poison Ivy Pit; Scorpion Cave; Sink Hole; Stevens Ranch Cave No. 1; Three-Fingers Cave; Tick 'n Delight Cave; Twin Pits; The Two Raccoon Cave; World News Cave; Wurzbach Bat Cave; Young Cave No. 1.

Order Diotocardia

Family Helicinidae
Helicina orbiculata (Say) (?troglophile)
Records.—Black Cat Cave; Elm Springs Cave; Isopit; KKYX Cave; Some Monk Chanted Evening Cave; Young Cave No. 1.

Order Taenioglossa

Family Hydrobiidae (troglobite)
Phreatodrobia conica Hershler and Longley.
Record.—City Water Board Artesian Well No. 4.
Phreatodrobia imitata Hershler and Longley (troglobite)
Records.—O.R. Mitchell Well; Verstraeten Well No. 1.
Phreatodrobia nugax (Pilsbry and Ferriss) (troglobite)
Record.—Springs along San Antonio River.
Phreatodrobia nugax inclinata Hershler and Longley (troglobite)
Record.—Longhorn Portland Cement Co. Well.
Phreatodrobia nugax nugax (Pilsbry and Ferriss) (troglobite)
Records.—Brackenridge Zoo Well; Union Stockyards Well

Order Basommotophora

Family Lymnaeidae
Lymnaea sp. (accidental)
Record.—Isopit.

Order Orthurethra

Family Pupillidae
Pupoides albilabris (C.B. Adams) (accidental)
Record.—Bullis Hole

Order Sigmurethra

Family Bulimulidae
Rhabdotus alternatus (Say) (accidental)

Record.—KKYX Cave

Family Helicodiscidae

Helicodiscus eigenmanni Pilsbry (troglophile)

Records.—Bear Cave; Black Cat Cave; Braken Bat Cave; Cave of the Bee Spirits; Cave of the Half-Snake; Chimney Cricket Cave; Christmas Cave; Dirtwater Cave; Elm Springs Cave; Han's Grotto; Hitzfelder's Bone Hole; Isopit; John Wagner Ranch Cave No. 3; Kamikazi Cricket Cave; KKYX Cave; Robber Baron Cave; Some Monk Chanted Evening Cave; Unknown Cave; Young Cave No. 1.

Comment.—This is the only species of terrestrial snail definitely known to be a troglophile in Texas caves.

Family Limacidae

Limax sp. (accidental)

Record.—Roan's Cave.

Family Oleacinidae

Euglandina singleyana (W.G. Binney) (accidental)

Records.—Cave of the Bearded Tree; Skull Cave

Family Polygyridae

Mesodon roemeri (Pfeiffer) (trogloxene)

Record.—Robber Baron Cave

Comment.—This species is an inhabitant of cave entrance areas.

Polygyra mooreana (W.G. Binney) (accidental)

Record.—Kamikazi Cricket Cave

Polygyra texasiana (Moricand) (accidental)

Records.—Black Cat Cave; KKYX Cave; Por Boy Ranch Cave; Underwater Cave

Family Zonitidae

Glyphyalinia roemeri (Pilsbry and Ferriss) (?troglophile)

Record.—Voight's Bat Cave

Glyphyalinia umbilicata (Singley) (accidental)

Records.—Cave of the Bearded Tree; Robber Baron Cave

Zonitoides arboreus (Say) (accidental)

Records.—Elmore Cave; Robber Baron Cave

PHYLUM ANNELIDA
CLASS CLITELLATA
Order Haplotaxida (earthworms)

Undetermined material

Records.—San Antonio River, springs along; Black Cat Cave; Cave of the Bearded Tree; Logan's Cave; Madla's Cave; Pick-up Sticks Cave; Robber Baron Cave; Robber's Cave; Wurzbach Bat Cave.

Family Lumbricidae

Bimastos sp. (?troglophile)

Record.—Madla's Cave

Family Megascolecidae

Diplocardia sp. (troglophile)

Record.—Headquarters Cave

PHYLUM ARTHROPODA
CLASS BRANCHIOPODA
Order Anostraca (fairy shrimp)

Family Streptocephalidae

?Streptocephalus sp. (accidental)

Record.—Corkscrew Cave

CLASS EUCOPEPODA (copepods)

Undetermined material

Records.—Black Cat Cave; Twin Pits

Order Cyclopoida

Family Cyclopidae

Cyclops sp. 1 (?troglobite)

Record.—Verstraeten Well No. 1.

Cyclops sp. 2 (?troglobite)

Record.—Verstraeten Well No. 1.

Eucyclops speratus (Lilljeborg) (troglophile)

Record.—Springs along San Antonio River.

Macrocyclops albidus (Jurine) (troglophile)

Record.—Springs along San Antonio River.

CLASS OSTRACODA (ostracods)

Order Podocopida

Undetermined material

Record.—Black Cat Cave

CLASS MALACOSTRACA

Order Thermosbaenacea

Family Thermosbaenidae

Monodella texana Maguire (troglobite)

Records.—Artesia Pump Station Well; Verstraeten Well No. 1.

Comment.—This species is also known from cave and phreatic waters in Hays County.

Order Amphipoda (water scuds)

Family Bogidiellidae

?Undescribed genus and species (troglobite)

Record.—Verstraeten Well No. 1

Parabogidiella (?) new species (troglobite)

Record.—Verstraeten Well No. 1

Parabogidiella americana Holsinger (troglobite)

Records.—O.R. Mitchell Well No. 2; Verstraeten Well No. 1

Family Crangonyctidae

Stygobromus flagellatus (Benedict) (troglobite)

Records.—Artesia Pump Station Well; O.R. Mitchell Well; Verstraeten Well No. 1

Comments.—This species is otherwise known from cave and phreatic waters in Hays County. This may be a misidentification (Holsinger, pers. comm.).

Stygobromus russelli (Holsinger) (troglobite)

Records.—Springs along San Antonio River; Elm Springs Cave; Isopit; Twin Pits

Comment.—This species is widespread in underground waters in Texas.

Family Hadziidae

Allotexiweckelia hirsuta Holsinger (troglobite)

Records.—O.R. Mitchell Well No. 2; Verstraeten Well No. 1

Texiweckelia texensis Holsinger (troglobite)

Records.—O.R. Mitchell Well; Verstraeten Well No. 1.

Texiweckeliopsis insolita (Holsinger) (troglobite)

Record.—Verstraeten Well No. 1

Order Isopoda

Suborder Flabellifera (aquatic isopods)

Family Cirolanidae

Cirolanides texensis Benedict (troglobite)

Records.—Artesia Pump Station Well; Isopit; Leon Creek Powerplant Well No. 1; O.R. Mitchell Well; Twin Pits; Verstraeten Well No. 1; Verstraeten Well No. 2

Comment.—This marine relict is widespread in the underground waters of Texas.

Speocirolana hardeni Bowman (troglobite)

Records.—Artesia Pump Station Well; Leon Creek Well No. 1; Verstraeten Well No. 1

Comment.—This marine relict is also known from subterranean waters in Val Verde County.

Suborder Asellota (water slaters)

Family Stenasellidae

Mexistenasellus coahuila Cole and Minckley (troglobite)

Records.—Springs along San Antonio River; Brackenridge Zoo Well; Leon Creek Powerplant Well No. 1.

Comment.—This species was described from underground waters in Coahuila, Mexico.

Suborder Oniscoidea (terrestrial isopods)

Undetermined material

Records.—Assassin Cave; Bear Cave; Black Cat Cave; Cueva Cave; Genesis Cave; Helotes Blowhole; Isopit; Kamikazi Cricket Cave; KKYX Cave; Madla's Cave; Robber Baron Cave; Stevens Ranch Trash Hole Cave; The Two Raccoon Cave; Young Cave No. 1.

Family Armadillidiidae

Armadillidium vulgare Latreille (?troglophile)

Records.—Cave of the Skinny Snake; Game Pasture Cave No. 1; Pick-Up Sticks Cave; Stevens Ranch Cave No. 1.

Family Oniscidae

Metoponorthus sp. (?troglophile)

Records.—Cave With A View; John Wagner Ranch Cave No. 3; Mattke Cave; Three-Fingers Cave.

Porcellio sp. (?troglophile)

Record.—Cave With A View

Family Trichoniscidae

?Undescribed genus and species (troglobite)

Record.—Robber Baron Cave.

Comments.—This species appears to be endemic to Robber Baron Cave. It was collected from rotten wood in several parts of the cave.

?*Brackenridgia* sp. (troglobite)

Records.—B. J. Pit; Black Cat Cave; Braken Bat Cave; Caracol Creek Coon Cave; Cave of the Bee Spirits; Cave of the Hairy Tooth; Cave of the Woods; Christmas Cave; Cueva Cave; Dirtwater Cave; Droll Cave; Elm Springs Cave; Forked Pit Cave; Game Pasture Cave No. 1; Genesis Cave; Government Canyon Bat Cave; Han's Grotto; Headquarters Cave; Helotes Hilltop Cave; Isopit; John Wagner Ranch Cave No. 3; Kamikazi Cricket Cave; King Toad Cave; Logan's Cave; Madla's Drop Cave; Mastodon Pit; Poison Ivy Pit; Rattlesnake Cave; Robber Baron Cave; Robber's Cave; Scorpion Cave; Stevens Ranch Trash Hole Cave; Three-Fingers Cave; Voight's Bat Cave; Wurzbach Bat Cave; Young Cave No. 1.

Comment.—This material probably all belongs to *Brackenridgia cavernarum.*

Brackenridgia cavernarum Ulrich (troglobite)

Record.—Madla's Cave

Comment.—This species is widespread in caves along the Balcones Fault Zone and on the western edge of the Edwards Plateau.

Order Decapoda
Suborder Pleocyemata

Family Palaemonidae (shrimp)

Palaemonetes antrorum Benedict (troglobite)

Records.—Artesia Pump Station Well; O.R. Mitchell Well; Verstraeten Well No. 1; Verstraeten Well No. 2

Comment.—This species is also known from phreatic waters in Hays County.

CLASS ARACHNIDA

Order Scorpiones (scorpions)

Family Vaejovidae

Vaejovis reddelli Gertsch and Soleglad (troglobite)

Records.—?Unnamed cave (BCS No. 58); ?Assassin Cave; ?Basement Cave; Black Cat Cave; ?Blue Hole No. 1; Elmore Cave; ?Genesis Cave; Government Canyon Bat Cave; Helotes Hilltop Cave; ?Hills and Dales Pit; Isopit; John Wagner Ranch Cave No. 3; ?Kamikazi Cricket Cave; ?Logan's Cave; Madla's Cave; ?Mattke Cave; Por Boy Ranch Cave; ?Schertz- Cibolo Cave; Scorpion Cave; ?Scorpion Gulch; ?Three-Fingers Cave; ?Tick 'n Delight Cave; ?Twin Pits; ?Voight's Bat Cave; ?Young Cave No. 1.

Comment.—This is the only species of troglophilic scorpion in Texas caves.

Order Araneae (spiders)

Infraorder Araneomorphae

Undetermined material

Records.—Ackerman's Trash Hole; Another Prayer Cave; Aue Road Cave; B. J. Pit; Basement Cave; Blue Hole No. 1; Bob Bear Cave; Breathe-If-You-Can Cave; Caracol Creek Coon Cave; Cave of the Creek; Cave of the Mad Machete; Cave of the Skinny Snake; Cave With A View; Chimney Cricket Cave; Christmas Cave; Corkscrew Cave; Council Cave; Crane Bat Cave; Creekbed Cave; Dam Crawl; Droll Cave; Elephant Spring; Elmore Cave; Fireworks Cave; Forked Pit Cave; Game Pasture Cave No. 1; Gladsam's Cave; Government Canyon Bat Cave; Gray Cave; Headquarters Cave; Helotes Hilltop Cave; Hills and Dales Pit; Is That All There Is Spring; Isopit; John Wagner Ranch Cave No. 3; Kamikazi Cricket Cave; King Toad Cave; KKYX Cave; Linda's First (Cave Find); Logan's Cave; Lost Mine Trail Cave; Madla's Cave; Madla's Drop Cave; Mastodon Pit; Mattke Cave; Molar Hole; Poison Ivy Pit; Por Boy Ranch Cave; Robber Baron Cave; Robber's Cave; Root Cave; Salado Creek Water Cave; Scorpion Cave; Screaming Meemies Pit; Shavano Park Cave; Sink Hole; Skull Cave; Spider Hole; Stevens Ranch Cave No. 1; Stevens Ranch Trash Hole Cave; Stone Oak Parkway Pit; Three-Fingers Cave; Tick 'n Delight Cave; The Two Raccoon Cave; Wagner Ranch Pit; What's This, A Cave; World News Cave; Wurzbach Bat Cave; Young Cave No. 1; Young Cave No. 2

Family Agelenidae (funnel-weaver spiders)

Agelenopsis aperta Gertsch (accidental)

Record.—Cave of the Half-Snake.

Family Amaurobiidae (white-eyed spiders)

Metaltella simoni (Keyserling) (accidental)

Record.—Robber Baron Cave.

Family Dictynidae

Cicurina sp. (troglophile)

Records.—Black Cat Cave.

Cicurina (*Cicurella*) spp. (troglobite)

Records.—Caracol Creek Coon Cave; Christmas Cave; Genesis Cave; Headquarters Cave; Helotes Blowhole; John Wagner Ranch Cave No. 3; Kamikazi Cricket Cave; Logan's Cave; Madla's Drop Cave; Mattke Cave; Robber's Cave; Scorpion Cave; Three-Fingers Cave; Young Cave No. 1

Comment.—Most of this material awaits study by a specialist.

Cicurina (Cicurella) sp. (?troglobite)

Record.—Mattke Cave.

Comment.—A long-legged six-eyed species with evanescent eyes may belong to this genus.

Cicurina (*Cicurella*) *baronia* Gertsch (troglobite)

Record.—Robber Baron Cave.

Comment.—This species is known only from Robber Baron Cave.

Cicurina (*Cicurella*) *gatita* Gertsch (troglophile)

Record.—Black Cat Cave.

Comment.—This species is known only from this cave.

Cicurina (*Cicurella*) *madla* Gertsch (troglobite)

Record.—Madla's Cave.

Comment.—This species is known only from this cave.

Cicurina (*Cicurella*) *venii* Gertsch (troglobite)

Record.—Braken Bat Cave.

Comment.—This species is known only from this cave.

Cicurina (*Cicurella*) *vespera* Gertsch (troglobite)

Record.—Government Canyon Bat Cave.

Comment.—This species is known only from this cave.

Cicurina (*Cicurusta*) *varians* Gertsch and Mulaik (troglophile)

Records.—Assassin Cave; Bear Cave; Black Cat Cave; Caracol Creek Coon Cave; Dirtwater Cave; Friesenhahn Cave; Government Canyon Bat Cave; Han's Grotto; Headquarters Cave; Hitzfelder's Bone Hole; Isopit; Kamikazi Cricket Cave; Madla's Cave; Niche Cave; Robber Baron Cave; Some Monk Chanted Evening Cave; Twin Pits; Wurzbach Bat Cave

Comment.—This species is abundant in caves throughout Texas.

Family Clubionidae (sac spiders)

Trachelas sp. (accidental)

Record.—Cave of the Bearded Tree.

Family Gnaphosidae (hunting spiders)

Drassyllus sp. (accidental)

Record.—Robber Baron Cave

Family Leptonetidae

Neoleptoneta spp.

Record.—Bear Cave; ?Caracol Creek Coon Cave; ?John Wagner Ranch Cave No. 3; ?Logan's Cave; ?Madla's Drop Cave; ?Scorpion Cave; ?Three-Fingers Cave.

Comment.—Material from cave names preceded by a question mark await study by a specialist and is only tentatively assigned to this genus..

Neoleptoneta new species (?troglobite)

Record.—Kamikazi Cricket Cave.

Comment.—This undescribed species is known only from this cave.

Neoleptoneta microps (Gertsch) (troglobite)

Record.—Government Canyon Bat Cave.

Comment.—This species is known only from this cave.

Family Linyphiidae (sheet-web weavers)

Undetermined genus and species

Record.—Underwater Cave

Eperigone sp. (accidental)

Record.—Isopit

Meioneta sp. (troglophile)

Records.—Bear Cave; Black Cat Cave; Christmas Cave; Elm Springs Cave; Government Canyon Bat Cave; Isopit; Rattlesnake Cave; Wurzbach Bat Cave

Family Lycosidae (wolf spiders)

Pirata davisi Wallace and Exline (accidental)

Record.—Bullis Hole.

Schizocosa parallela Banks (accidental)

Records.—Cave of the Bearded Tree; Cave of the Half-Snake

Schizocosa saltatrix Hentz (accidental)

Records.—Cave of the Bearded Tree; Cave of the Half-Snake

Family Nesticidae (cave spiders)

Eidmannella sp.

Record.—?Game Pasture Cave No. 1.

Comment.—Material from this cave awaits study by a specialist.

Eidmannella pallida (Emerton) (troglophile)

Records.—Black Cat Cave; Caracol Creek Coon Cave; Government Canyon Bat Cave; Headquarters Cave; I Think It's A Cave; Voight's Bat Cave

Comment.—This species occurs in caves throughout Texas.

Eidmannella rostrata Gertsch (troglobite)

Records.—Braken Bat Cave; Cave of the Half-Snake; Dirtwater Cave; Fair Hole; Helotes Blowhole; Hitzfelder's Bone Hole; Isopit; Madla's Cave; Poison Ivy Pit; Robber Baron Cave; Wurzbach Bat Cave

Comment.—This species is known from numerous caves in Central Texas.

Gaucelmus augustinus Keyserling (troglophile)

Records.—Bear Cave; Young Cave No. 1

Comment.—This species is known from numerous caves in Texas.

Family Pholcidae (daddy-long-legs spiders)

Modisimus sp. (troglophile)

Record.—Wurzbach Bat Cave

Modisimus texanus Banks (troglophile)

Records.—Niche Cave; Poison Ivy Pit; World Newt Cave

Family Sicariidae (brown spiders)

Loxosceles reclusa Gertsch and Mulaik (troglophile)

Record.—Roan's Cave.

Comment.—This is the venemous brown recluse spider.

Family Theridiidae (combfooted spiders)

Achaearanea porteri (Banks) (troglophile)

Records.—Assassin Cave; Bear Cave; Cave of the Bee Spirits; Dirtwater Cave; Isopit; Kamikazi Cricket Cave; Rattlesnake Cave; Robber Baron Cave; Unknown Cave; World Newt Cave; Wurzbach Bat Cave; Young Cave No. 1

Comment.—This is a widespread troglophile in Texas caves.

Achaearanea tepidariorum (Koch) (troglophile)

Record.—Robber Baron Cave

Latrodectus sp. (trogloxene)

Record.—Black Widow Pit.

Comment.—This is a sight record.

Steatoda sp. (accidental)

Record.—Cave of the Half-Snake.

Family Thomisidae (crab spiders)

Xysticus ferox (Hentz) (accidental)

Record.—Cave of the Bearded Tree.

Order Pseudoscorpionida (pseudoscorpions)

Undetermined material

Record.—Young Cave No. 1.

Family Chernetidae

Neoallochernes ?stercoreus (Turk) (troglophile)

Record.—Caracol Creek Coon Cave.

Comment.—This species is usually associated with bat guano.

Family Chthoniidae

Chthonius (*Ephippiochthonius*) sp. cf. *tetrachelatus* (Preyssler) (troglophile)

Record.—Mattke Cave.

Comment.—This is the first record of this subgenus in Texas caves.

Tyrannochthonius ?new species (troglobite)

Record.—Wurzbach Bat Cave.

Comment.—This species was found on the underside of rocks and appears to be a new troglobitic species.

Tyrannochthonius texanus Muchmore (troglophile)

Records.—?Kamikazi Cricket Cave; Madla's Cave.

Comment.—This species is known from several other Texas caves.

Family Neobisiidae

Microbisium parvulum (Banks) (troglophile)

Record.—Robber Baron Cave

Comment.—This species has been found in other Texas caves.

Tartarocreagris new species (troglobite)

Record.—Mattke Cave.

Comments.—This species was found on the underside of rocks. This is the first record of this genus outside of the greater Austin area.

Order Acarina (mites and ticks)

Undetermined material

Records.—Bear Cave; Caracol Creek Coon Cave; Cave of the Bearded Tree; Chimney Cricket Cave; Government Canyon Bat Cave; Headquarters Cave; Helotes Hilltop Cave; Hitzfelder's Bone Hole; Isopit; Kamikazi Cricket Cave; Madla's Cave; Niche Cave; Olive Pit; Por Boy Ranch Cave; Rattlesnake Cave; Robber Baron Cave; Robber's Cave; Shot and a Prayer Cave; Sink Hole; Skull Cave; Stevens Ranch Cave No. 1; Stone Oak Parkway Pit; Unknown Cave; Voight's Bat Cave; Wurzbach Bat Cave; Young Cave No. 1.

Undetermined material (parasite)

Record—Robber's Cave.

Comment.—This is a parasite of *Rhadine exilis* and *Rhadine infernalis*.

Suborder Metastigmata (ticks)

Undetermined material

Records.—?Cave of the Hairy Tooth; Elmore Cave; Huesta Cave; Post Hole; Tick 'n Delight Cave; Virgin Cave; Wagner Ranch Fissure

Family Ixodidae (hard ticks)

Amblyomma americanum (Linnaeus) (parasite)

Records.—Cave of the Half-Snake; Wurzbach Bat Cave

Suborder Prostigmata

Family Trombidiidae

Undetermined genus and species (parasite)

Records.—Christmas Cave; Forked Pit Cave; Game Pasture Cave No. 1; Government Canyon Bat Cave; Isopit; Kamikazi Cricket Cave; Pick-up Sticks Cave; Scorpion Cave; Stevens Ranch Cave No. 1; Three-Fingers Cave; The Two Raccoon Cave; World News Cave; Wurzbach Bat Cave

Comment.—This is a parasite of cave crickets, *Ceuthophilus* spp.

Order Opiliones (harvestmen)
Suborder Palpatores

Family Gagrellidae

Leiobunum townsendii Weed (trogloxene)

Records.—?Ackerman's Trash Hole; ?Another Prayer Cave; Assassin Cave; ?Aue Road Cave; B.J. Pit; ?Bandera Road Cave; ?Basement Cave; ?Bear Cave; ?Bet-Ya-Can't-Find-It Cave; ?Big Bexar Cave; ?Black Cat Cave; ?Blue Hole No. 1; Braken Bat Cave; ?Breathe-If-You-Can Cave; ?C-Section Cave; Caracol Creek Coon Cave; ?Cave File Cave; Cave of the Bearded Tree; ?Cave of the Cliff; ?Cave of the Creek; Cave of the Half-Snake; ?Cave of the Mad Machete; Cave of the Skinny Snake; ?Cave of the Woods; Cave With A View; Christmas Cave; ?Cliffside Crawl No. 1; ?Cliffside Crawl No. 2; ?Come-Along Cave; ?Crane Bat Cave; ?Creekbed Cave; ?Cub

Cave; ?Dam Crawl; Dirtwater Cave; ?Drop and a Prayer Pit; ?Dynamite Cave; ?Elephant Spring; Elm Springs Cave; Elmore Cave; ?Fireworks Cave; ?Friesenhahn Cave; Game Pasture Cave No. 1; ?Genesis Cave; ?Gladsam's Cave; ?Godchildren's Sink; ?Goonies Cave; ?Gray Cave; ?Han's Grotto; Headquarters Cave; ?Helotes Blowhole; Helotes Hilltop Cave; ?Hills and Dales Pit; Hitzfelder's Bone Hole; ?Hogan's Cave; ?Hopeless Cave; ?Hummingbird Cave; Isopit; I Think It's A Cave; ?Is That All There Is Spring; John Wagner Ranch Cave No. 3; Kamikazi Cricket Cave; KKYX Cave; Linda's First (Cave Find); ?Lone Star Pit; Lost Mine Trail Cave; Madla's Cave; Madla's Drop Cave; Mastodon Pit; Mattke Cave; Maverick Ranch Spring; ?Molar Hole; Niche Cave; ?Now-You-See-It Now-You-Don't Cave; Olive Pit; ?Pekingese Pit; ?Persimmon Pit; Poison Ivy Pit; ?Pomeranian Pit; Por Boy Ranch Cave; Powerline Cave; Rattlesnake Cave; Roan's Cave; Robber's Cave; ?Root Cave; ?Sam's Cave; Scorpion Cave; ?Screaming Meemies Pit; ?Shot and a Prayer Cave; ?Shotgun and a Prayer Cave; Sink Hole; Skull Cave; ?The Crawl; Three-Fingers Cave; ?Tick 'n Delight Cave; ?Tiny Town Sink; ?T.M.I. Cave; ?Toad Cave; ?2 for 1 Spring; The Two Raccoon Cave; Underwater Cave; Unknown Cave; ?Virgin Cave; ?Voight's Bat Cave; ?Womly Pit; World News Cave; Wurzbach Bat Cave; Young Cave No. 1; ?Young Cave No. 2

Comments.—This is the only species of trogloxene harvestman frequently found in Texas caves. Caves marked with a question mark are sight records.

Suborder Laniatores

Family Phalangodidae

Hoplobunus sp. (troglobite)

Records.—Headquarters Cave; Hills and Dales Pit; John Wagner Ranch Cave No. 3; Logan's Cave; Madla's Drop Cave; Robber's Cave; Scorpion Cave; Three-Fingers Cave; Young Cave No. 1.

Comment.—This material awaits study.

Hoplobunus madlae Goodnight and Goodnight (troglobite)

Records.—Black Cat Cave; Elmore Cave; Genesis Cave; Helotes Hilltop Cave; Isopit; Kamikazi Cricket Cave; Madla's Cave; Wurzbach Bat Cave

Comments.—This species has also been reported from caves in other parts of Texas. It is probable that this material represents one or more undescribed species. The type-locality was in Uvalde County.

Texella sp. 1 (troglobite)

Records.—Logan's Cave; Robber's Cave; Young Cave No. 1.

Comment.—This may be an undescribed species.

Texella sp. 2 (?troglobite)

Record.—Young Cave No. 1.

Comment.—This short-legged species may be an undescribed species.

Texella cokendolpheri Ubick and Briggs (troglobite)

Records.—?John Wagner Ranch Cave No. 3; Robber Baron Cave.

Comment.—The record for John Wagner Ranch Cave No. 3 is based on a juvenile and this may be the same as *Texella* sp. 1 above.

CLASS CHILOPODA (centipedes)

Undetermined material

Records.—Basement Cave; Cave of the Woods; Madla's Cave; Shot and a Prayer Cave

Order Scolopendromorpha

Family Cryptopidae

Theatops new species (troglobite)

Record.—Robber Baron Cave

Comment.—The genus *Theatops* is represented by one described and at least two undescribed species of troglobite in Texas.

Family Scolopendridae

Undetermined genus and species (accidental)

Records.—Braken Bat Cave; Elmore Cave.

Scolopendra heros Girard (accidental)

Record.—Hills and Dales Pit.

Order Geophilomorpha

Undetermined material

Records.—Caracol Creek Coon Cave; Cave of the Skinny Snake; Kamikazi Cricket Cave; Linda's First (Cave Find); Stone Oak Parkway Pit; Wurzbach Bat Cave.

Order Lithobiomorpha

Undetermined material

Records.—Assassin Cave; B. J. Pit; Cave of the Bearded Tree; Cave of the Half-Snake; Cave With A View; Christmas Cave; Game Pasture Cave No. 1; Headquarters Cave; Isopit; King Toad Cave; Robber Baron Cave; Sink Hole; Stevens Ranch Cave No. 1; Three-Fingers Cave; Tick 'n Delight Cave; Wurzbach Bat Cave.

Order Scutigeromorpha

Family Scutigeridae

Undetermined genus and species

Records.—Black Cat Cave; Headquarters Cave; Underwater Cave; Unknown Cave

CLASS DIPLOPODA (millipedes)

Undetermined material

Records.—Big Bexar Cave; Cave With Ladder In It; Chimney Cricket Cave; Crawl and a Prayer Cave; Dynamite Cave; Godchildren's Sink; Graywaters Cave; Screaming Meemies Pit.

Order Spirostreptida

Family Cambalidae

Cambala speobia (Chamberlin) (troglobite)

Records.—Black Cat Cave; Braken Bat Cave; Caracol Creek Coon Cave; Cave of the Bee Spirits; Droll Cave; Elm Springs Cave; Forked Pit Cave; Game Pasture Cave No. 1; Genesis Cave; Government Canyon Bat Cave; Grave Marker Cave; Han's Grotto; Helotes Hilltop Cave; Hitzfelder's Bone Hole; Isopit; Jessica's Pit; John Wagner Ranch Cave No. 3; Kamikazi Cricket Cave; King Toad Cave; Linda's First (Cave Find); Logan's Cave; Madla's Cave; Madla's Drop Cave; Mastodon Pit; Robber Baron Cave; Robber's Cave; Shot And A Prayer Cave; Stevens Ranch Trash Hole Cave; Three-Fingers Cave; The Two Raccoon Cave.

Comment.—This is the common millipede in the caves of Central Texas.

Family Spirostreptidae

Orthoporus texicolens Chamberlin (accidental)

Record.—?Kamikazi Cricket Cave.

Order Julida

Family Parajulidae

Undetermined genus and species (accidental)

Record.—Cave of the Hairy Tooth; Headquarters Cave; Stone Oak Parkway Pit; The Two Raccoon Cave.

Gosiulus aethes (Chamberlin) (accidental)

Record.—Bullis Hole

Order Siphonophorida

Family Siphonophoridae

Undetermined genus and species

Record.—Young Cave No. 1.

Comment.—This is the first record for this order for Bexar County.

Order Callipodida

Family Casiopetalidae

Abacion texense (Loomis) (accidental)

Records.—Bear Cave; Poison Ivy Pit; Stevens Ranch Cave No. 1; Wurzbach Bat Cave

Order Polydesmida

Family Eurymerodesmidae

Eurymerodesmus sp. (accidental)

Record.—Headquarters Cave

Eurymerodesmus melacis Shelley (accidental)

Record.—Black Cat Cave

Family Fuhrmannodesmidae

Speodesmus sp. (troglobite)

Records.—Cave of the Hairy Tooth; Christmas Cave; Come-Along Cave; Cueva Cave; Elmore Cave; ?Flint Bridge Cave; Kamikazi Cricket Cave; Logan's Cave; Madla's Drop Cave; Robber's Cave; Scorpion Cave; Stevens Ranch Trash Hole Cave; Three-Fingers Cave; Young Cave No. 1.

Comments.—All or most of these records probably are referable to *Speodesmus* new species 1. The Flint Bridge Cave record is a sight record.

Speodesmus new species 1 (troglobite)

Records.—Government Canyon Bat Cave; Helotes Hilltop Cave; Hills and Dales Pit; John Wagner Ranch Cave No. 3.

Comment.—This species is also known from one cave in eastern Medina County.

Speodesmus new species 2 (troglobite)

Record.—Robber Baron Cave.

Comment.—This species is known only from Robber Baron Cave.

Speodesmus echinourus Loomis (troglobite)

Record.—Fair Hole.

Comment.—This species is widespread in Texas caves.

Family Paradoxosomatidae

Oxidus gracilis (Koch) (troglophile)

Records.—Bullis Hole; Christmas Cave; Elm Springs Cave; ?Georg's Hole; Han's Grotto; Hills and Dales Pit; Isopit; Kamikazi Cricket Cave; Rattlesnake Cave; Robber Baron Cave; Underwater Cave; Wurzbach Bat Cave.

Comments.—The hot house millipede is an introduced species frequently found in Texas caves in urban areas. It is at times present in enormous numbers.

Family Pyrgodesmidae

Myrmecodesmus sp. (troglophile)

Record.—Elmore Cave.

Comment.—This species is an associate of fire ants.

Family Sphaeriodesmidae

Desmonus sp. (accidental)

Record.—Mattke Cave.

CLASS SYMPHYLA

Undetermined material

Records.—Headquarters Cave; Sink Hole; Wurzbach Bat Cave.

CLASS ENTOGNATHA

Order Collembola (springtails)

Undetermined material

Records.—B. J. Pit; Black Cat Cave; Braken Bat Cave; Caracol Creek Coon Cave; Cave of the

Skinny Snake; Chimney Cricket Cave; Crawl and a Prayer Cave; Dirtwater Cave; Droll Cave; Elmore Cave; Government Canyon Bat Cave; Grave Marker Cave; Han's Grotto; Headquarters Cave; Isopit; John Wagner Ranch Cave No. 3; Kamikazi Cricket Cave; KKYX Cave; Linda's First (Cave Find); Logan's Cave; Madla's Cave; Madla's Drop Cave; Mastodon Pit; Por Boy Ranch Cave; Roan's Cave; Robber's Cave; Scorpion Cave; Sink Hole; Stevens Ranch Cave No. 1; Stevens Ranch Trash Hole Cave; Three-Fingers Cave; Twin Pits; The Two Raccoon Cave; Voight's Bat Cave; World News Cave; Wurzbach Bat Cave; Young Cave No. 1

Family Entomobryidae (slender springtails)

Lepidocyrtus sp. (?accidental)

Record.—Stone Oak Parkway Pit.

Pseudosinella violenta (Folsom) (troglophile)

Records.—Assassin Cave; Bear Cave; Caracol Creek Coon Cave; Cave of the Hairy Tooth; Cave of the Half-Snake; Elm Springs Cave; Genesis Cave; Government Canyon Bat Cave; Headquarters Cave; Helotes Hilltop Cave; Hitzfelder's Bone Hole; I Think It's A Cave; Isopit; Kamikazi Cricket Cave; Logan's Cave; Madla's Cave; Olive Pit; Rattlesnake Cave; Robber Baron Cave; Robber's Cave; Skull Cave; Stone Oak Parkway Pit; Tick 'n Delight Cave; Underwater Cave; Wurzbach Bat Cave.

Comment.—This species is present in virtually every Texas cave.

Sinella (*Coecobrya*) *caeca* (Schott) (?troglophile)

Records.—Pick-Up Sticks Cave; Robber Baron Cave.

Tomocerus (*Pogonognathellus*) *flavescens* Tullberg (troglophile)

Record.—Bullis Hole

Family Sminthuridae

Sminthurinus sp. (?accidental)

Record.—Rattlesnake Cave.

Order Entotrophi

Family Campodeidae (slender entotrophs)

Undetermined genus and species.

Records.—Isopit; Kamikazi Cricket Cave; Stevens Ranch Trash Hole Cave; Tick 'n Delight Cave; Young Cave No. 1.

Family Iapygidae (earwiglike entotrophs)

Mixojapyx reddelli Muegge (troglobite)

Record.—Robber Baron Cave.

Comment.—This species is also known from several other Texas caves.

CLASS INSECTA

Undetermined material (larvae)

Records.—Springs along San Antonio River; Black Cat Cave; Braken Bat Cave; Cave of the Half-Snake; Cave With A View; Droll Cave; Elmore Cave; Headquarters Cave; I Think It's A Cave; Isopit; Madla's Cave; Madla's Drop Cave; Mastodon Pit; Roan's Cave; Robber's Cave; Skull Cave; Some Monk Chanted Evening Cave; Stevens Ranch Cave No. 1; Three-Fingers Cave; Wurzbach Bat Cave.

Order Archaeognatha (bristletails)

Undetermined material (accidental)

Record.—Cave of the Skinny Snake.

Order Thysanura (silverfish)

Undetermined material

Records.—Bet-Ya-Can't-Find-It Cave; Caracol Creek Coon Cave; Creekbed Cave; Fence Post Hole; Genesis Cave; World News Cave; Wurzbach Bat Cave

Family Nicoletiidae (subterranean silverfish)

Texoreddellia texensis (Ulrich) (troglobite)

Records.—Black Cat Cave; ?Braken Bat Cave; ?Caracol Creek Coon Cave; ?Cave of the Bee Spirits; ?Cave of the Hairy Tooth; ?Christmas Cave; Elm Springs Cave; ?Elmore Cave; ?Forked Pit Cave; ?Game Pasture Cave No. 1; Headquarters Cave; ?Helotes Blowhole; Hitzfelder's Bone Hole; ?Isopit; ?Kamikazi Cricket Cave; ?King Toad Cave; ?Logan's Cave; Madla's Cave; ?Madla's Drop Cave; ?Mastodon Pit; ?Pick-up Sticks Cave; ?Poison Ivy Pit; Robber Baron Cave; ?Robber's Cave; ?Scorpion Cave; ?Stevens Ranch Trash Hole Cave; ?Three-Fingers Cave; ?Young Cave No. 1.

Comments.—This species is present in caves throughout the Edwards Plateau and Balcones Fault Zone of Texas. Caves marked with a question mark probably contain this species but the specimens have not yet been studied by a specialist.

Order Orthoptera (crickets and allies)

Family Gryllidae (crickets)

Undetermined genus and species (accidental)

Record.—Droll Cave.

Gryllus sp. (accidental)

Records.—Isopit; Roan's Cave

Family Rhaphidophoridae (cave crickets)

Ceuthophilus sp. (trogloxene)

Records.—Unnamed cave (BCS #58); Ackerman's Trash Hole; Another Prayer Cave; Aue Road Cave; Bandera Road Cave; Basement Cave; Bear Cave; Bet-Ya-Can't-Find- It Cave; Blue Hole No. 1; Bob Bear Cave; Breathe-If-You-Can Cave; C-Section Cave; Cave File Cave; Cave of the Cliff; Cave of the Creek; Cave of the Mad Machete; Cave of the Woods; Cave With Dead Coral Snake In It; Cliffside Crawl No. 1; Cliffside Crawl No. 2; Come-Along Cave; Coon Crap Cave; Corkscrew Cave; Council Cave; Crane Bat Cave; Crawl and a Prayer Cave; Creekbed Cave; Cub Cave; Dam Crawl; Drop and a Prayer Cave; Dynamite Cave; Elephant Spring; Fence Post Hole; Fireworks Cave; Flint Bridge Cave; Genesis Cave; Georg's Hole; Gladsam's Cave; Godchildren's Sink; Gray Cave; Grutas de los Mojados; Helotes Blowhole; Hills and Dales Pit; Hopeless Cave; Hummingbird Cave; Is That All There Is Spring; Madla's Drop Cave; Mattke Cave; Molar Hole; Moonshine Cave; Niche Cave; Pekingese Pit; Persimmon Pit; Pick-Up Sticks Cave; Pomeranian Pit; Pot-Bellied Stove Cave; Putrefaction Cave Root Cave; Sal Si Puedes Cave; Schertz-Cibolo Cave; Scorpion Cave; Scorpion Gulch; Screaming Meemies Pit; Shavano Park Cave; Shot and a Prayer Cave; Shotgun and a Prayer Cave; Silo Hole; Somebody Else's Cave; Sorehead Cave; Spider Hole; Stone Oak Parkway Pit; The Crawl; Tick 'n Delight Cave; Tiny Town Sink; T.M.I. Cave; T.M.I. Cave No. 2; Toad Cave; 2 For 1 Cave; 2 For 1 Spring; Villa Rreal's Cave; Virgin Cave; Wagner Ranch Pit; Womly Pit; World News Cave; Young Cave No. 2

Comment.—Most of these are sight records.

Ceuthophilus (*Ceuthophilus*) new species (trogloxene)

Records.—Black Cat Cave; Caracol Creek Coon Cave; Cave of the Bee Spirits; Christmas Cave; Droll Cave; Elmore Cave; Forked Pit Cave; Friesenhahn Cave; Game Pasture Cave No. 1; Han's Grotto; Isopit; John Wagner Ranch Cave No. 3; Kamikazi Cricket Cave; Pick-Up Sticks Cave; Poison Ivy Pit; Roan's Cave; Robber's Cave; Stevens Ranch Cave No. 1; Three-Fingers Cave; World Newt Cave; Wurzbach Bat Cave.

Comment.—This undescribed species is widespread in caves of the Balcones Fault Zone and eastern Edwards Plateau.

Ceuthophilus (*Ceuthophilus*) *secretus* Scudder (trogloxene)

Records.—B. J. Pit; Black Cat Cave; Caracol Creek Coon Cave; Cave of the Bearded Tree; Cave of the Half-Snake; Cave of the Skinny Snake; Cave With A View; Chimney Cricket Cave; Christmas Cave; Dead Deer Cave; Dirtwater Cave; Elm Springs Cave; Elmore Cave; Game Pasture Cave No. 1; Government Canyon Bat Cave; Grave Marker Cave; Graywaters Cave; Headquarters Cave; Helotes Hilltop Cave; Hitzfelder's Bone Hole; I Think It's A Cave; Isopit; Jessica's Pit; John Wagner Ranch Cave No. 3; Kamikazi Cricket Cave; KKYX Cave; Linda's First (Cave Find); Logan's Cave; Lost Mine Trail Cave; Madla's Cave; Madla's Drop Cave;

Mastodon Pit; Olive Pit; Poison Ivy Pit; Por Boy Ranch Cave; Rattlesnake Cave; Robber's Cave; Sink Hole; Some Monk Chanted Evening Cave; Stevens Ranch Cave No. 1; Stevens Ranch Trash Hole Cave; Three-Fingers Cave; The Two Raccoon Cave; Unknown Cave; Underwater Cave; Voight's Bat Cave; World News Cave; Wurzbach Bat Cave; Young Cave No. 1

Comment.—This species occurs in caves throughout Texas.

Ceuthophilus (*Geotettix*) *cunicularis* Hubbell (trogloxene)

Records.—Black Cat Cave; Braken Bat Cave; Caracol Creek Coon Cave; Cave With A View; Droll Cave; Forked Pit Cave; Friesenhahn Cave; Game Pasture Cave No. 1; Government Canyon Bat Cave; Headquarters Cave; Hitzfelder's Bone Hole; Isopit; Jessica's Pit; John Wagner Ranch Cave No. 3; Kamikazi Cricket Cave; Linda's First (Cave Find); Madla's Cave; Madla's Drop Cave; Mattke Cave; Rattlesnake Cave; Robber Baron Cave; Robber's Cave; Sink Hole; Some Monk Chanted Evening Cave; Stevens Ranch Cave No. 1; Stevens Ranch Trash Hole Cave; Three-Fingers Cave; Wurzbach Bat Cave; Young Cave No. 1.

Comments.—This species is widespread in Texas caves. Unlike the two above species it is usually found on the floor of the cave.

Ceuthophilus (*Geotettix*) *umbratilis* Hubbell (trogloxene)

Record.—?Isopit

Comment.—This record is based on immature specimens and awaits verification.

Order Demaptera (earwigs)

Undetermined material (accidental)

Record.—Robber Baron Cave

Order Dictyoptera
Suborder Blattaria (cockroaches)

Undetermined material

Records.—Assassin Cave; Cave of the Skinny Snake; Headquarters Cave; King Toad Cave; Rattlesnake Cave; Shavano Park Cave; Three-Fingers Cave; The Two Raccoon Cave.

Family Blattellidae (German cockroaches)

Euthlastoblatta sp. (?troglophile)

Records.—Robber Baron Cave; Underwater Cave; World Newt Cave.

Family Blattidae (American cockroaches)

Periplaneta sp. (accidental)

Record.—Robber Baron Cave.

Family Polyphagidae (desert cockroaches)

Arenivaga sp. (trogloxene)

Record.—Niche Cave

Arenivaga sp. prob. *bolliana* (Saussure) (trogloxene)

Records.—G.I. Joe Cave; Skull Cave; Unknown Cave

Arenivaga tonkawa Hebard (trogloxene)

Records.—?Elm Springs Cave; ?Headquarters Cave

Order Psocoptera (booklice and barklice)

Undetermined material

Records.—John Wagner Ranch Cave No. 3; Scorpion Cave; Three-Fingers Cave.

Family Psyllipsocidae (cave barklice)

Psyllipsocus new species (troglophile)

Record.—Niche Cave

Psyllipsocus ramburii Selys-Longchamps (troglophile)

Record.—Unknown Cave

Order Hemiptera (bugs)

Undetermined material

Records.—Madla's Cave; Stevens Ranch Cave No. 1.

Suborder Dipsocomorpha

Family Reduviidae

Undetermined genus and species (trogloxene)

Records.—Assassin Cave; Black Cat Cave; Cave of the Skinny Snake; Stevens Ranch Trash Hole Cave.

Triatoma sp. (trogloxene)

Records.—Madla's Cave; Robber Baron Cave

Triatoma gerstaeckeri (Stal) (trogloxene)

Records.—?Headquarters Cave; Niche Cave; Young Cave No. 1

Suborder Nepomorpha (aquatic bugs)

Undetermined material

Record.—Fair Hole.

Order Homoptera (leafhoppers and allies)

Undetermined material (accidental)

Record.—Isopit

Order Thysanoptera (thrips)

Suborder Terebrantia

Undetermined material (accidental)

Record.—Madla's Cave.

Family Thripidae (thrips)

Frankliniella sp. (accidental)

Record.—Isopit.

Order Coleoptera (beetles)

Undetermined material

Records.—Bet-Ya-Can't-Find-It Cave; Cave of the Creek; Council Cave; Creekbed Cave; Godchildren's Sink; Han's Grotto; Molar Hole; Por Boy Ranch Cave; Sorehead Cave; Unknown Cave; World Newt Cave.

Suborder Adephaga

Family Carabidae (ground beetles)

Undetermined genus and species

Records.—Assassin Cave; Bear Cave; Braken Bat Cave; Cave of the Half-Snake; Cave of the Skinny Snake; Isopit; Pick-Up Sticks Cave; Robber Baron Cave; Robber's Cave; Skull Cave; Stevens Ranch Cave No. 1; The Two Raccoon Cave; Wurzbach Bat Cave.

Tachyini genus and species

Record.—?Stevens Ranch Trash Hole Cave.

Agonum extensicolle (Say) (accidental)

Record.—Bullis Hole.

Agonum viride LeConte (accidental)

Record.—Bullis Hole.

Agonum (*Circinalia*) *punctiforme* Say (accidental)

Record.—Bullis Hole.

Calosoma scrutator Fabricius (?accidental)

Record.—Wurzbach Bat Cave.

Chlaenius sp. (?accidental)

Record.—Wurzbach Bat Cave.

Clivina sp. (?troglophile)

Records.—Bullis Hole; Madla's Cave

Rhadine sp. (troglobite)

Record.—Cave of the Woods.

Comment.—This is a sight record for this now-filled cave.

Rhadine sp. cf. *speca* (Barr)

Record.—Poison Ivy Pit.

Comment.—Material from this cave requires additional study for positive identification.

Rhadine exilis (Barr and Lawrence) (troglobite)

Records.—Small cave 0.5 mi. N of Helotes; Black Cat Cave; Christmas Cave; Headquarters Cave; Government Canyon Bat Cave; John Wagner Ranch Cave No. 3; Kamikazi Cricket Cave; Logan's Cave; Mastodon Pit; Robber's Cave; Three-Fingers Cave; Young Cave No. 1.

Comment.—This species is known only from these caves.

Rhadine howdeni (Barr and Lawrence) (troglophile)

Record.—Government Canyon Bat Cave.

Comment.—This species is widespread in Texas caves.

Rhadine infernalis (Barr and Lawrence) (troglobite)

Records.—Caracol Creek Coon Cave; Christmas Cave; Game Pasture Cave No. 1; Genesis Cave; Helotes Blowhole; Isopit; Kamikazi Cricket Cave; King Toad Cave; Logan's Cave; Madla's Drop Cave; Mattke Cave; Robber's Cave; Scorpion Cave; Stevens Ranch Trash Hole Cave; Three-Fingers Cave; Wurzbach Bat Cave.

Comment.—The subspecific identity of this material awaits further study.

Rhadine infernalis ewersi (Barr) (troglobite)

Record.—Headquarters Cave.

Comment.—This subspecies is known with certainty only from this cave.

Rhadine infernalis infernalis (Barr and Lawrence) (troglobite)

Records.—John Wagner Ranch Cave No. 3; Madla's Cave.

Comment.—This subspecies is known with certainty only from these caves.

Rhadine infernalis ewersi (Barr) x *Rhadine infernalis infernalis* (Barr and Lawrence) (troglobite)

Record.—Government Canyon Bat Cave.

Comment.—The status of specimens from this cave should be clarified with study of the newly collected specimens of *Rhadine infernalis* from caves throughout the range of the species.

Suborder Polyphaga

Undetermined material

Record.—Kamikazi Cricket Cave; Linda's First (Cave Find); Madla's Cave; Pick-Up Sticks Cave; Stone Oak Parkway Pit; Wurzbach Bat Cave; Young Cave No. 1.

Family Alleculidae (comb-clawed beetles)

Undetermined genus and species (troglophile)

Records.—Caracol Creek Coon Cave; Cave of the Bearded Tree; Cave of the Half-Snake; Elm Springs Cave; Forked Pit Cave; Government Canyon Bat Cave; Headquarters Cave; Isopit; John Wagner Ranch Cave No. 3; Kamikazi Cricket Cave; Linda's First (Cave Find); Logan's Cave; Madla's Cave; Madla's Drop Cave; Robber's Cave; Scorpion Cave; Some Monk Chanted Evening Cave; Three-Fingers Cave.

Hymenorus sp. (troglophile)

Records.—Braken Bat Cave; Robber Baron Cave

Family Anobiidae (drug store and death watch beetles)

Undetermined genus and species (accidental)

Record.—Elm Springs Cave.

Family Cantharidae (soldier beetles)

Cantharis sp. (?troglophile)

Record.—Headquarters Cave

Family Elateridae (click beetles)

Ampedus sp. (accidental)

Record.—Robber Baron Cave.

Ampedus sp. nr. *impolitus* (Melsheimer) (accidental)

Record.—Cave of the Bearded Tree.

Conoderus sp. (accidental)

Record.—Robber Baron Cave.

Family Elmidae (riffle beetles)

Stenelmis new species (troglophile)

Record.—Springs along San Antonio River.

Stenelmis sp. cf. *sexlineata* Sanderson (troglophile)

Record.—Springs along San Antonio River.

Family Histeridae (clown beetles)

Undetermined genus and species (troglophile)

Records.—Elm Springs Cave; Government Canyon Bat Cave; Headquarters Cave; The Two Raccoon Cave.

Family Hydrophilidae (water scavenger beetles)

Undetermined genus and species (accidental)

Record.—Bear Cave.

Family Micromalthidae (telephone-pole beetles)

Micromalthus debilis LeConte (accidental)

Record.—Robber Baron Cave.

Family Pselaphidae (mold beetles)

Undetermined genus and species

Record.—Chimney Cricket Cave.

Batrisodes ?new species (troglobite)

Record.—Robber Baron Cave.

Comment.—This species awaits study but is probably undescribed.

Batrisodes (*Excavodes*) *venyivi* Chandler (troglobite)

Record.—Christmas Cave; Helotes Hilltop Cave.

Comment.—This species is known only from these caves. It was found under a rock lightly buried in clay in Christmas Cave.

Family Ptilodactylidae (toed-winged beetles)

Ptilodactyla sp. (?troglophile)

Record.—Elm Springs Cave

Family Scarabaeidae (lamellicorn beetles)

Undetermined genus and species (accidental)

Record.—Jessica's Pit.

Cotinus sp. prob. *texana* (Casey) (accidental)

Record.—Robber Baron Cave.

Family Scydmaenidae (antlike stone beetles)

Euconnus (*Connophron*) sp. (?accidental)

Record.—Chimney Cricket Cave.

Family Staphylinidae (rove beetles)

Undetermined genus and species

Records.—Elmore Cave.

Aleocharinae genus and species

Record.—Kamikazi Cricket Cave; Linda's First (Cave Find); Madla's Cave; Wurzbach Bat Cave.

Paederinae genus and species.

Records.—Cave of the Half-Snake; ?Hitzfelder's Bone Hole

Belonuchus sp. (troglophile)

Records.—Assassin Cave; B. J. Pit; Bear Cave; Black Cat Cave; Braken Bat Cave; Cave of the Bearded Tree; Cave of the Half-Snake; Cave of the Skinny Snake; Cave With A View; Elmore Cave; Game Pasture Cave No. 1; Government Canyon Bat Cave; Grave Marker Cave; Headquarters Cave; Hills and Dales Pit; Isopit; Jessica's Pit; John Wagner Ranch Cave No. 3; Kamikazi Cricket Cave; Linda's First (Cave Find); Logan's Cave; Madla's Cave; Mattke Cave; Robber's Cave; Stevens Ranch Cave No. 1; Three-Fingers Cave.

Carpelimus sp. (accidental)

Record.—Madla's Cave.

?*Echiaster* sp. (accidental)

Record.—Stone Oak Parkway Pit

Comment.—Only a damaged abdomen was available for study.

Erichsonius sp. (accidental)

Records.—Elm Springs Cave; Pick-Up Sticks Cave; Stevens Ranch Cave No. 1.

Eustilicus condei (Jarrige) (troglophile)

Records.—Elm Springs Cave; Elmore Cave; Genesis Cave; Headquarters Cave; Helotes Blowhole; Jessica's Pit; Logan's Cave; Madla's Cave; Madla's Drop Cave; Mastodon Pit; Mattke Cave; Pick-Up Sticks Cave; Poison Ivy Pit; Robber's Cave; Stevens Ranch Cave No. 1.

Comment.—This widespread Texas cave species has never been collected on the surface.

Homaeotarsus sp. (?accidental)

Records.—Bullis Hole; Underwater Cave.

Neobisnius sp. (accidental)

Record.—Pick-Up Sticks Cave.

Orus (*Leucorus*) *rubens* Casey (troglophile)

Records.—Isopit; John Wagner Ranch Cave No. 3; Kamikazi Cricket Cave; Wurzbach Bat Cave

Philonthus sp. (troglophile)

Record.—Isopit.

Sepedophilus sp. (accidental)

Record.—Linda's First (Cave Find).

Family Tenebrionidae (darkling beetles)

Undetermined genus and species

Records.—Isopit; Three-Fingers Cave.

Blapstinus fortis LeConte (accidental)

Records.—Helotes Hilltop Cave; Robber Baron Cave

Zopherus nodulosus haldemani Horn (accidental)

Record.—Bear Cave

Order Hymenoptera (wasps, ants, and bees)

Undetermined material

Records.—Madla's Cave; Robber's Cave; Three-Fingers Cave; Young Cave No. 1

Suborder Apocrita

Undetermined material (bees)

Record.—Cave of the Bee Spirits

Comment.—This is a sight record.

Family Formicidae (ants)

Undetermined genus and species.

Records.—Gandalf's Cave;Molar Hole.

Crematogaster (*Crematogaster*) *laeviuscula* Mayr (accidental)

Record.—Poison Ivy Pit

Hypoponera opacior (Forel) (accidental)

Record.—Voight's Bat Cave.

Labidus coecus (Latreille) (accidental)

Record.—Dirtwater Cave; Stevens Ranch Trash Hole Cave.

Leptogenys elongata (Buckley) (?trogloxene)

Records.—John Wagner Ranch Cave No. 3; Kamikazi Cricket Cave; Skull Cave.

Paratrechina terricola (Buckley) (accidental)

Record.—Droll Cave.

Pheidole dentata Mayr (accidental)

Record.—Cave of the Bearded Tree.

Solenopsis (*Solenopsis*) *geminata* McCook (?accidental)

Record.—Kamikazi Cricket Cave.

Comment.—This native fire ant has been replaced by the imported fire ant in this cave.

Solenopsis (*Solenopsis*) *invicta* Buren (trogloxene)

Records.—B. J. Pit; Black Cat Cave; Caracol Creek Coon Cave; Christmas Cave; Elmore Cave; Government Canyon Bat Cave; Jessica's Pit; John Wagner Ranch Cave No. 3; Kamikazi Cricket Cave; Linda's First (Cave Find); Logan's Cave; Madla's Drop Cave; Mastodon Pit; Mattke Cave; Poison Ivy Pit; Por Boy Ranch Cave; Pot-Bellied Stove Cave; Rattlesnake Cave; Robber's Cave; Scorpion Cave; Sink Hole; Stevens Ranch Cave No. 1; Stevens Ranch Trash Hole Cave; Three-Fingers Cave; The Two Raccoon Cave; World News Cave; Wurzbach Bat Cave; Young Cave No. 1.

Comments.—The imported fire ant is present in virtually every cave in Bexar County. Caves marked with a question mark are tentative records pending verification by a specialist.

Solenopsis (*Solenopsis*) *xyloni* McCook (?accidental)

Record.—Braken Bat Cave

Order Lepidoptera (moths and butterflies)

Suborder Ditrysia

Undetermined material (moths).

Records.—Another Prayer Cave; Breathe-If-You-Can Cave; Caracol Creek Coon Cave; Dirtwater Cave; Government Canyon Bat Cave; Gray Cave; Logan's Cave; Mattke Cave; Robber's Cave; Three-Fingers Cave; The Two Raccoon Cave; Young Cave No. 1

Family Noctuidae (noctuid moths)

Undeterminedgenus and species

Record.—Robber Baron Cave.

Family Tineidae (clothes moths)

Undetermined genus and species

Record.—Isopit

Order Diptera (flies)

Undetermined material

Records.—Assassin Cave; Aue Road Cave; Bandera Road Cave; Bet-Ya-Can't-Find-It Cave; Blue Hole No. 1; Braken Bat Cave; Chimney Cricket Cave; Cub Cave; Elm Springs Cave; Elmore Cave; Government Canyon Bat Cave; Gray Cave; Headquarters Cave; Isopit; John Wagner Ranch Cave No. 3; Linda's First (Cave Find); Madla's Cave; Robber Baron Cave; Robber's Cave; Scorpion Cave; Skull Cave; Stevens Ranch Cave No. 1; Stone Oak Parkway Pit; Three-Fingers Cave; What's This, A Cave; Wurzbach Bat Cave; Young Cave No. 1

Suborder Nematocera

Family Ceratopogonidae (biting midges)

Undetermined genus and species

Record.—Cave of the Half-Snake

Forcipomyia sp.

Record.—Hitzfelder's Bone Hole

Family Chironomidae (midges)

Undetermined genus and species

Record.—Springs along San Antonio River.

Family Culicidae (mosquitoes)

Undetermined genus and species (trogloxene)

Records.—Another Prayer Cave; Aue Road Cave; Bandera Road Cave; Bet-Ya-Can't-Find-It Cave; Blue Hole No. 1; Breathe-If-You-Can Cave; Government Canyon Bat Cave; Gray Cave; Headquarters Cave; Is That All There Is Spring; John Wagner Ranch Cave No. 3; Madla's Cave No. 2; Mattke Cave; Three-Fingers Cave; What's This, A Cave; Young Cave No. 1

Culiseta sp. prob. *inornatus* Williston (trogloxene)

Record.—Robber Baron Cave.

Family Sciaridae (dark-winged fungus gnats)

Undetermined genus and species
Record.—Cave of the Half-Snake
Family Tipulidae (crane flies)
Undetermined genus and species (trogloxene)
Records.—Cave of the Skinny Snake; Cave With A View; Dirtwater Cave; Headquarters Cave.

Suborder Brachycera

Family Calliphoridae (blow flies)
Calliphora vicina (R.-D.) (accidental)
Record.—Robber Baron Cave
Family Milichiidae
Leptometopa new species nr. *latipes* (Meigen) (troglophile)
Record.—Bear Cave
Family Streblidae (bat flies)
Trichobius major Coquillett (parasite)
Record.—Bear Cave
Comment.—This is a parasite of bats.

Order Siphonaptera (fleas)

Undetermined material (parasite)
Record.—Government Canyon Bat Cave

PHYLUM CHORDATA
CLASS TELEOSTOMI (fishes)
Order Cypriniformes

Family Characidae
Astyanax mexicanus (Filippi) (Mexican tetra) (trogloxene)
Record.—San Antonio Spring
Family Cyprinidae (minnows)
Undetermined genus and species
Records—Fair Hole; San Antonio Spring.

Order Siluriformes

Family Ictaluridae (catfish)
Undetermined genus and species (troglobite)
Records.—Alamo Dressed Beef Company Well; Persyn Well.
Comment.—These sight records probably belong to one of two the following species.
Satan eurystomus Hubbs and Bailey (widemouth blindcat) (troglobite)
Records.—Bexar Metropolitan Water District Well; El Patio Foods Well; O.R. Mitchell Well; William Kempin Well.
Comment.—This species is known only from these deep artesian wells.
Trogloglanis pattersoni Eigenmann (toothless blindcat) (troglobite)
Records.—Artesia Pump Station Well; ?El Patio Foods Well; George W. Brackenridge Well; Josef Boecke Well; O.R. Mitchell Well; Verstraeten Well No. 1.
Comment.—This species is known only from these deep artesian wells.

Order Perciformes

Family Centrarchidae
Lepomis cyanellus Rafinesque (green sunfish) (?troglophile)
Record.—Bullis Hole

CLASS AMPHIBIA
Order Urodela (salamanders)

Family Plethodontidae

Eurycea tridentifera Mitchell and Reddell (Honey Creek blind salamander) (troglobite)
Record.—Elm Springs Cave
Comment.—This species is also known from caves in Comal County.
Plethodon albagula Grobman (slimy salamnder) (trogloxene)
Records.—Bear Cave; ?Big Bexar Cave; ?Blue Hole No. 1; Christmas Cave; Cub Cave; Elmore Cave; Friesenhahn Cave; ?Gladsam's Cave; John Wagner Ranch Cave No. 3; Madla's Cave; Madla's Drop Cave; Mattke Cave; Moonshine Cave; Scorpion Cave; Tick 'n Delight Cave
Comment.—This is the only terrestrial salamander commonly found in Texas caves.

Order Anura (frogs and toads)

Undetermined material
Records.—Big Bexar Cave; Dynamite Cave; Han's Grotto; Roan's Cave; Villa Rreal's Cave; Voight's Bat Cave
Comment.—These are sight records.
Family Bufonidae
?*Bufo* sp. (toads)
Records.—Cave of the Bearded Tree; Cave of the Woods; Elm Springs Cave; Grave Marker Cave; Grutas de los Mojados; Han's Grotto; Kamikazi Cricket Cave; King Toad Cave; Stevens Ranch Cave No. 1; Toad Cave
Comment.—These are sight records.
Bufo punctatus Baird and Girard (canyon toad) (accidental)
Record.—Friesenhahn Cave
Bufo valliceps Wiegmann (Gulf Coast toad) (trogloxene)
Records.—Friesenhahn Cave; Game Pasture Cave No. 1; Headquarters Cave.
Family Leptodactylidae
Hylactophryne augusti latrans (Cope) (barking frog) (trogloxene)
Records.—Friesenhahn Cave; Madla's Cave
Syrrhophus marnocki Cope (cliff frog) (trogloxene)
Records.—Cave of the Woods; Cave With A View; Dirtwater Cave; Elmore Cave; Elm Springs Cave; Friesenhahn Cave; Grave Marker Cave; Headquarters Cave; Helotes Blowhole; Logan's Cave; Madla's Cave; Stevens Ranch Cave No. 1; Virgin Cave; Young Cave No. 1.
Family Pelobatidae
Scaphiopus sp. (spade-foot toad) (accidental)
Record.—Friesenhahn Cave.
Family Ranidae
Rana berlandieri Baird (Rio Grande leopard frog) (accidental)
Records.—Friesenhahn Cave; Robber's Cave.

CLASS REPTILIA

Order Chelonia (turtles)

Undetermined material (accidental)
Record.—Mattke Cave
Comment.—This is a sight record.
Family Chelydridae
Chelydra serpentina Linnaeus (snapping turtle) (accidental)
Record.—San Antonio Spring.

Order Squamata
Suborder Sauria (lizards)

Family Iguanidae
Anolis carolinensis Voigt (green anole) (accidental)
Record.—Friesenhahn Cave.
Family Scincidae (skinks)
Undetermined genus and species

Record.—Ackerman's Trash Hole
Comment.—This is a sight record.

Suborder Serpentes (snakes)

Undetermined material
Records.—Creekbed Cave; Fair Hole; Fireworks Cave; Friesenhahn Cave; Han's Grotto
Comment.—These are sight records of "snakes."
Family Colubridae
Thamnophis marcianus marcianus (Baird and Girard) (checkered garter snake) (accidental)
Records.—Cave of the Skiinny Snake; Wagner Ranch Fissure.
Family Crotalidae
Ankistrodon contortrix (Linnaeus) (copperhead) (trogloxene)
Records.—Friesenhahn Cave; Robber's Cave
Crotalus sp. (rattlesnakes) (trogloxene)
Records.—Baling Wire Cave; Cave of the Half-Snake; Creekbed Cave; Hitzfelder's Bone Hole; Poison Ivy Pit; Rattlesnake Cave; Robber's Cave; Schertz-Cibolo Cave; Stevens Ranch Cave No. 1; Underwater Cave; Wurzbach Bat Cave
Comment.—These sight records probably refer to *Crotalus atrox*.
Crotalus atrox Baird and Girard (Western diamondback rattlesnake) (trogloxene)
Records.—Headquarters Cave; Molar Hole
Micrurus fulvius (Linnaeus) (eastern coral snake) (accidental)
Records.—Bear Cave; Cave With Dead Coral Snake In It.

CLASS AVES

Order Falconiformes

Family Cathartidae
Coragyps atratus (Bechstein) (black vulture) (trogloxene)
Record.—Tick 'n Delight Cave; Wagner Ranch Fissure.
Comment.—These are sight records.

CLASS MAMMALIA

Order Chiroptera

Undetermined material (trogloxene)
Records.—Basement Cave; Bear Cave; Bet-Ya-Can't-Find-It Cave; Big Bexar Cave; Elm Springs Cave; Helotes Blowhole; Hills and Dales Pit; Lobo Cave; Madla's Cave; San Pedro Park Cave; Voight's Bat Cave; Wurzbach Bat Cave.
Comment.—These are sight records of "bats."
Family Vespertilionidae
Myotis velifer incautus (Allen) (Mexican brown bat) (trogloxene)
Records.—?Crane Bat Cave; Friesenhahn Cave; Government Canyon Bat Cave; Headquarters Cave
Pipistrellus sp. (pipistrelle) (trogloxene)
Record.—Gladsam's Cave

Order Carnivora

Family Canidae
Canis sp. (wolf)
Records.—Bear Cave; San Pedro Park Cave.
Canis familiaris Linnaeus (domestic dog) (accidental)
Record.—San Pedro Park Spring (West).
Comment.—A female with pups was present in the entrance area of the cave.
Canis latrans Say (coyote)
Records.—Bear Cave; San Pedro Park Cave
Family Procyonidae
Procyon lotor (Linnaeus) (raccoon) (trogloxene)

Records.—Bet-Ya-Can't-Find-It Cave; Caracol Creek Coon Cave; Coon Crap Cave; Government Canyon Bat Cave; Lytle Ranch Pit; Three-Fingers Cave; The Two Raccoon Cave.

Comment.—Raccoons are far more common in Bexar County caves than these few records indicate.

Order Rodentia

Undetermined material

Records.—Caracol Creek Coon Cave; Cave of the Bearded Tree; Looserock Cave; Robber's Cave; Shavano Park Cave

Family Cricetidae

Neotoma sp. (packrats) (trogloxene)

Record.—Robber Baron Cave.

Comment.—A packrat nested for several years in Robber Baron Cave.

Family Sciuridae

Cynomys ludovicianus (Ord) (black-tailed prairie dog) (accidental)

Record.—?Bering Sink.

Order Artiodactyla

Family Tayassuidae (peccaries)

Tayassu tajacu angulatus (Cope) (collared peccary)

Record.—Three-Fingers Cave.

Comment.—Two peccary were observed in the cave when first visited by James Loftin.

APPENDIX B
CAVE DESCRIPTIONS AND FAUNA

B. J. Pit (BCS #230)

Area: UTSA. Quadrangle: Helotes 7.5'.

Description: The cave entrance is roughly a 1 m diameter pit. Originally, the pit was only about 2.5 m deep but has been excavated to its present depth of 6 m. The pit was actually dug about 0.5 m deeper but was partially filled by sediment that spalled off the walls. About 2 m down the pit are two sediment-filled passages that head southwest and west. At the floor, an undercut in the pit wall leads 1 m into a 1.3 m diameter by 1.3 m high dome room which was not filled with sediment.

Biology: A collection by James Loftin on 22 June 1993 included the following material:

Terrestrial isopods: ?*Brackenridgia* sp. (troglobite)
Spiders: Araneomorphae undetermined
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Centipedes: Lithobiomorpha undetermined
Springtails: Collembola undetermined
Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)
Rove beetles: *Belonuchus* sp. (troglophile)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)

Black Cat Cave (BCS #7)

Area: Stone Oak. Quadrangle: Bulverde 7.5'.

Description: "A small collapse sink slopes down into a room 4 m long, 3 m wide, and 0.8 m high. Three of the walls are obscured by breakdown and almost hidden in the southeast corner is an 8 m long crawl which leads into the main cave. The largest room, Ballroom For A Short Fred Astaire, is irregularly shaped and roughly 8 m in diameter; the ceiling height averages about 1 m. The center of the room is nearly filled with formations. A narrow slot in the southeast wall goes to a 2.5 m drop leading into a passage 10 m long. The west wall of the Ballroom connects to the Bulverde Road Room. Where these rooms join, there is a small 8 m long passage which shows evidence of enlargement by flood waters. The Bulverde Road Room is somewhat oval in plan, measuring 9 m long by 4 m wide, and 2 m high. Bulverde Road runs over this room; road traffic may be responsible for some pressure breaks in the ceiling and for recent-appearing breakdown. A small hole in the west wall drops 1.4 m into a fourth room, which has extensively decorated west and northw alls. At the north end of the fourth room is a small formation-filled area, Buffalo Gal's Lament. Through the formations on the fourth room's west wall and past the only standing water in the cave, the passage opens into Trout Fishing in America Shorty Hallway. It has an irregular cross-section and is the only walking-size passage in the cave. Near its end, the ceiling drops to within a meter of the floor, and, except for its flowstone choke, this 33 m long passage is devoid of formations." (Veni, 1988) (See map, fig. 2, p. 67.)

Biology: Collections were made in the cave on 28 November 1982 by Scott Harden and Randy Waters; on 2 December 1984 by Scott Harden and Joe Ivy; on 27 January 1987 by James Reddell and Marcelino Reyes; on 7 February 1987 by Linda Palit and Allan Cobb; and on 8 March 1987 by James Reddell and Marcelino Reyes. The following is a fauna list:

Snails: Gastropoda undetermined
Helicina orbiculata (Say) (accidental)
Helicodiscus eigenmanni Pilsbry (troglophile)
Polygyra texasiana (Moricand) (accidental)
Earthworms: Haplotaxida undetermined
Copepods: Eucopepoda undetermined (SIGHT RECORD)
Ostracods: Podocopida undetermined
Terrestrial isopods: Oniscoidea undetermined

?*Brackenridgia* sp. (troglobite)
Scorpions: *Vaejovis reddelli* Gertsch and Soleglad (troglophile)
Spiders: *Cicurina* sp. (troglophile)
Cicurina (Cicurella) gatita Gertsch (troglophile)
Cicurina (Cicurusta) varians Gertsch and Mulaik (troglophile)
Meioneta sp. (troglophile)
Eidmannella pallida (Emerton) (troglophile)
Harvestmen: Probably *Leiobunum townsendii* Weed (trogloxene) (SIGHT RECORD)
Hoplobunus madlae Goodnight and Goodnight (troglobite)
Centipedes: Scutigeridae genus and species (troglophile)
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Eurymerodesmus melacis Shelley (accidental)
Springtails: Collembola undetermined
Insects: Insecta undetermined (larvae)
Subterranean silverfish: *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus (Ceuthophilus)* new species (trogloxene)
Ceuthophilus (Ceuthophilus) secretus Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Assassin bugs: Reduviidae genus and species (trogloxene)
Ground beetles: *Rhadine exilis* (Barr and Lawrence) (troglobite)
Rove beetles: *Belonuchus* sp. (troglophile)
Fire ants: *Solenopsis* (*Solenopsis*) *invicta* Buren (trogloxene)

Braken Bat Cave (BCS #147)

Area: Culebra Anticline. Quadrangle: Lacoste NE 7.5'.

Description: "The pit entrance is centered in a sink measuring 0.4 m deep and 4 m in diameter; the pit itself is 0.4 m in diameter and 1.7 m deep. A 2 m drop slopes northwest from the entrance pit to a 0.25 m wide twisting vertical squeeze. Five meters down, it opens into a passage 5 m long and 1 m high. The irregularly shaped domed ceiling reaches a height of 6.9 m. Two blind pits in the floor drop 1.5 m. To the southwest a passage 0.5 m high and wide, and located 2 m above the main passage floor, constricts and is impassable after 2 m." (Veni, 1988) (See map, fig. 3, p. 68.) When the owner's house was built near the cave about 1990, rocks were dumped into the cave and filled the entrance pit.

Biology: Collections were made in the cave on 22 November 1980 by George Veni and on 18 October 1983 by Eric Short and George Veni. The following is a fauna list for the cave:
Snails: *Helicodiscus eigenmanni* (Emerton) (troglophile)
Terrestrial isopods: ?*Brackenridgia* sp. (troglobite)
Spiders: *Cicurina (Cicurella) venii* Gertsch (troglobite)
Eidmannella rostrata Gertsch (troglobite)
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Centipedes: Scolopendridae genus and species (accidental)
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Springtails: Collembola undetermined
Insects: Insecta undetermined (larvae)
Subterranean silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus (Geotettix) cunicularis* Hubbell (trogloxene)
Ground beetles: Carabidae genus and species
Comb-footed beetles: *Hymenorus* sp. (troglophile)
Rove beetles: *Belonuchus* sp. (troglophile)
Fire ants: *Solenopsis (Solenopsis) xyloni* McCook (accidental)
Flies: Diptera undetermined

Caracol Creek Coon Cave (BCS #213)

Area: Culebra Anticline. Quadrangle: Culebra Hill 7.5'.

Description: The entrance to the cave is a 1 m long by 0.3 m wide pit situated at the base of a 4 m diameter by 1 m deep sinkhole. The pit drops 7.8 m into a passage that trends northeast-southwest and averages about 3 m wide. To the northeast the passage is initially about 6 m high, but lowers to a crawl within 8 m. The crawl goes 15 m to a drop in the ceiling which makes the passage impassable for 2 m before rising and continuing unexplored. To the southwest the cave slopes down a meter and the passage averages 1.5 m high for about 21 m, at which point the passage begins to gently slope upward and diminish in ceiling height. After 35 m the passage becomes very low and is impassable after another 12 m. The passage southwest of the entrance pit has several domes, extending up to 4 m high, and has a considerable amount of breakdown on the floor. Also, about 3 and 26 m from the entrance, along the south and north walls respectively, are two pits. Both drop as very narrow fissures. The first pit drops 6.1 m to a flat dirt floor. The second pit is 6.6 m deep. Beyond the base of the pit the cave has not been surveyed but is reported to lead to a passage that divides four ways. Two of the four passages quickly become too tight, a third is very tight and unexplored, and the fourth goes 3 m to another pit. This pit is impassibly small at the top, only 0.2 m in diameter, but enlarges as it drops 6-9 m to water. No obvious passage was seen to extend from this unentered pit.

Biology: Caracol Creek Coon Cave was named in part for a raccoon, *Procyon lotor* (Linnaeus), that was living along a ledge a short way down the entrance pit in January 1987. A mouse was observed in the cave in August 1987. The cave may be occasionally visited by bats, as indicated by stains on the ceiling. Guano is not obvious on the cave floor, but it could easily be overlooked within the rich cave soil. Collections were made in the cave on 26 August 1987 by Allan Cobb and Scott Harden and 15 June 1993 by James Loftin, James Reddell, Marcelino Reyes, and George Veni. The following is a fauna list:

Terrestrial isopods: *?Brackenridgia* sp. (troglobite)
Spiders: Araneomorphae undetermined
Cicurina (Cicurella) sp. (troglobite)
Cicurina (Cicurusta) varians Gertsch and Mulaik (troglophile)
?Neoleptoneta sp.
Eidmannella pallida (Emerton) (troglophile)
Pseudoscorpions: *Neoallochernes ?stercoreus* (Turk) (troglophile)
Mites: Acarina undetermined
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Centipedes: Geophilomropha undetermined
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Springtails: Collembola undetermined
Slender springtails: *Pseudosinella violenta* (Folsom) (troglophile)
Silverfish: Thysanura undetermined
Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus (Ceuthophilus)* new species (trogloxene)
Ceuthophilus (Ceuthophilus) secretus Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Ground beetles: *Rhadine infernalis* (Barr and Lawrence) (troglobite)
Comb-clawed beetles: Alleculidae genus and species (troglophile)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)
Moths: Ditrysia undetermined
Raccoon: *Procyon lotor* (Linnaeus) (trogloxene)
Mouse: Rodentia undetermined (trogloxene)

Cave of the Skinny Snake (BCS #273)

Area: Culebra Anticline. Quadrangle: Lacoste NE 7.5'.

Description: The cave has two entrances within a 13 m long by 8 m wide by 0.5 m deep solution

sinkhole. The larger entrance is a 1.2 m long by 0.9 m wide by 0.4 m deep pit at the base of the sinkhole. Rubble covers the pit's floor and intermittently blocks the passage leading east and deeper into the cave. The second entrance is in the flank of the solution sinkhole. It is 0.4 m in diameter and drops 5.3 m to the bottom of the cave. Once inside the entrance, the cave opens along a bedding plane to about 1.5 m in diameter where rubble from the larger entrance slopes inward. Below the bedding plane the cave is a 2.5 m long by 0.5 m wide fissure whose floor is comprised of washed-in soil and small rocks.

Biology: A collection made on the cave on 2 June 1993 by James Loftin and George Veni included the following material:

Snails: Gastropoda undetermined
Terrestrial isopods: *Armadillidium vulgare* Latreille (?troglophile)
Spiders: Araneomorphae undetermined
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Centipedes: Geophilomorpha undetermined
Springtails: Collembola undetermined
Bristletails: Machilidae genus and species
Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)
Roaches: Blattaria undetermined
Assassin bugs: Reduviidae genus and species (trogloxene)
Ground beetles: Carabidae genus and species
Rove beetles: *Belonuchus* sp. (troglophile)
Crane flies: Tipulidae genus and species
Checkered garter snake: *Thamnophis marcianus marcianus* (Baird and Girard) (accidental)

Cave of the Woods (BCS #9)

Area: UTSA. Quadrangle: Castle Hills 7.5'.

Description: "The entrance was a 1.5 m drop along an enlarged joint, along which the cave trended. A low crawl off the entrance drop, 0.2 m high, 2 m wide, and 2.5 m long, was Froggy Freeway, the first "room" in the cave. Approximately 1 m to the east the cave opened into a pit where a distinct bedding plane was noticeable. The pit dropped 3.35 m, past a natural bridge, into the Hall of the Hanging Trap. The passage doubled back under the entrance, then made an abrupt turn to the south following the entrance joint. A passage 0.5 m wide led to the Yes, We Have No Bananas Room, 2 m in diameter with a 4.5 m high dome. To the southeast, a drop in the ceiling marked the area of speleothem growth, followed by the main and terminal room of the cave, a dome room 5 m high and 2 m wide. The Great Escape was a crawl to a mud plug. The cave floor was a thin layer of dirt, cricket droppings, bones, rocks, and loose organic debris." (Veni, 1988) (See map, fig. 4, p. 69.) Expansion of The Woods of Shavano subdivision in the spring of 1981 put the cave under 7 m of landfill.

Biology: The cave was never biologically studied, but the following material was noted:

Terrestrial isopods: ?*Brackenridgia* sp. (troglobite)
Harvestmen: Probably *Leiobunum townsendii* (trogloxene)
Centipedes: Chilopoda undetermined
Cave crickets: *Ceuthophilus* sp. (trogloxene)
Ground beetles: *Rhadine* sp. (troglobite)
Toads: ?*Bufo* sp.
Cliff frog: *Syrrhophus marnocki* (trogloxene)

Cave With A View (BCS #289)

Area: UTSA. Quadrangle: Helotes 7.5'.

Description: The entrance to the cave is a 0.3 m high by 1.2 m wide crawlway situated at the base of a cliff. Immediately inside the cave a 0.5 m high and wide passage extends 6 m to the south before ending. Within 3 m of the entrance the cave opens to an irregular room, roughly 4 m long by 6 m wide and 1-2

m high. Large breakdown blocks cover much of the floor.

Biology: A collection in the cave on 1 June 1993 by James Loftin, James Reddell, Marcelino Reyes, and George Veni included the following material:

Snails: Gastropoda undetermined
Terrestrial isopods: *Metoponorthus* sp. (?troglophile)
Porcellio sp. (?troglophile)
Spiders: Araneomorphae undetermined
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Centipedes: Lithobiomorpha undetermined
Insects: Insecta undetermined (larvae)
Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Rove beetles: *Belonuchus* sp. (troglophile)
Crane flies: Tipulidae genus and species
Cliff frog: *Syrrhophus marnocki* Cope (trogloxene)

Christmas Cave (BCS #10)

Area: Helotes 7.5'. Quadrangle: Helotes 7.5'.

Description: "A small entrance sink leads 5 m down a steep-floored stoopway to a 2.5 m wide walking passage. A lare natural bridge and the cave's deepest point, -7 m, are 13 m from the entrance. From here the floor steadily rises until the main passage becomes too small for further exploration 60 m into the cave. A small seasonal stream, flowing toward the entrance, sinks into the sediment at this point. The passage is impassably tight upstream. The cave also has two minor side passages. The first is 1 m high, 1 m wide, and 8 m long; the second extends 2 m before becoming impassably small." (Veni, 1988) (See map, fig. 5, p. 70.). Rusting metal and other refuse cover most of the cave floor for the first 13 meters. In 1988 a metal door was installed at the bottom of the entrance slope to prevent vandalism and further trash dumping.

Biology: Collections were made in the cave on 25 December 1982 by Joe Ivy and Randy Waters and on 6 September 1993 by James Reddell and Marcelino Reyes. Scott Harden reported the presence of *Plethodon albagula* in the cave on 22-23 October 1984. The following is a fauna list:

Snails: Gastropoda undetermined
Helicodiscus eigenmanni Pilsbry (troglophile)
Terrestrial isopods: ?*Brackenridgia* sp. (troglobite)
Spiders: Araneomorphae undetermined
Cicurina (Cicurella) sp. (troglobite)
Meioneta sp. (troglophile)
Mites: Trombidiidae genus and species (parasite of *Ceuthophilus secretus*)
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Centipedes: Lithobiomorpha undetermined
Millipedes: *Speodesmus* sp. (troglobite)
Oxidus gracilis (Koch) (troglophile)
Subterranean silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus (Ceuthophilus)* new species (trogloxene)
Ceuthophilus (Ceuthophilus) secretus Scudder (trogloxene)
Ground beetles: *Rhadine exilis* (Barr and Lawrence) (troglobite)
Rhadine infernalis (Barr and Lawrence) (troglobite)
Mold beetles: *Batrisodes (Excavodes) venyivi* Chandler (troglobite)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)
White-throated slimy salamander: *Plethodon albagula* Grobman (trogloxene)

Droll Cave (BCS #268)

Area: Culebra Anticline. Quadrangle: Lacoste NE 7.5'.

Description: The cave is a blind pit. Its entrance measures 0.5 m long by 0.4 m wide, and drops a total of 14.32 m. The pit slightly offsets along the drop and lengthens along a fracture, becoming up to 2 m long by 0.5 m wide at its dirt and rock base.

Biology: A collection in the cave on 2 June 1993 by James Reddell, Marcelino Reyes, and George Veni included the following material:

Snails: Gastropoda undetermined
Terrestrial isopods: ?*Brackenridgia* sp. (troglobite)
Spiders: Araneomorphae undetermined
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Springtails: Collembola undetermined
Insects: Insecta undetermined (larvae)
Crickets: Gryllidae genus and species (accidental)
Cave crickets: *Ceuthophilus (Ceuthophilus)* new species (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Ants: *Paratrechina terricola* (Buckley) (accidental)

Elmore Cave (BCS #21)

Area: Stone Oak. Quadrangle: Bulverde 7.5'.

Description: "The entrance is a small hole on a hillside. The pit drops 2.5 m, then follows a steep narrow fissure a short distance to a 4.3 m drop. Here the cave ends in a small room measuring 3 by 1.5 by 4 m high. An impassably small hole in the south wall takes the cave's drainage and blows air." (Veni, 1988) (See map, fig. 6, p. 71.)

Biology: Collections were made in the cave on 24 October 1982 by Randy Waters; on 28 November 1982 by Scott Harden and Randy Waters; on 28 April 1983 by Randy Waters; and on 14 July 1993 by James Reddell and Marcelino Reyes. The following is a fauna list:

Snails: Gastropoda undetermined
Zonitoides arboreus (Say) (?troglophile)
Scorpions: *Vaejovis reddelli* Gertsch and Soleglad (troglophile)
Spiders: Araneomorphae undetermined
Ticks: Metastigmata undetermined
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Hoplobunus madlae Goodnight and Goodnight (troglobite)
Centipedes: Scolopendridae genus and species (SIGHT RECORD)
Millipedes: *Speodesmus* sp. (troglobite)
Myrmecodesmus sp. (troglophile)
Springtails: Collembola undetermined
Insects: Insecta undetermined (larvae)
Subterranean silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus (Ceuthophilus)* new species (trogloxene)
Ceuthophilus(Ceuthophilus) secretus Scudder (trogloxene)
Rove beetles: Staphylinidae genus and species
Belonuchus sp. (troglophile)
Eustilicus condei (Jarrige) (troglophile)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)
Flies: Diptera undetermined
White-throated slimy salamanders: *Plethodon albagula* Grobman (trogloxene)
Cliff frogs: *Syrrhophus marnocki* Cope (trogloxene)

Forked Pit Cave (BCS #265)

Area: Culebra Anticline. Quadrangle: Lacoste NE 7.5'.

Description: This is a branched pit dropping to a couple of passages. The cave is 8.9 m deep and 12.9 m long.

Biology: A collection in the cave on 13 June 1993 by James Loftin and Spencer Woods included the following material:

Terrestrial isopods: *?Brackenridgia* sp. (troglobite)
Spiders: Araneomorphae undetermined
Mites: Trombidiidae genus and species (parasite of *Ceuthophilus* sp.)
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus (Ceuthophilus)* new species (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Comb-clawed beetles: Alleculidae genus and species (troglophile)

Game Pasture Cave No. 1 (BCS #249)

Area: Culebra Anticline. Quadrangle: Lacoste NE 7.5'.

Description: The cave's pit entrance is centered at the base of a 4 m diameter by 0.8 m deep solution sinkhole. The pit is initially 0.6 m in diameter, and elongates to 1.5 m and narrows to 0.4 m near its base about 8.5 m down. Adjoining the north side of the base of the pit is Brown Bottle Hallway, which extends 15 m northeast of the shaft and 7.3 m to the southwest. The passage averages 0.7 m wide by 2.5 m high, and ends in both directions in dirt/clay fill. West of the entrance pit across the Hallway a steeply descending crawlway leads to the rest of the cave. The crawl is 0.6 m wide, enlarges to 1.6 m high within 3 m, and is spanned by a natural bridge after 5.5 m and just prior to reaching a cross passage parallel to Brown Bottle Hallway. To the northeast the passage continues via a high level or low crawl (with only about 0.8 m difference in elevation) for 2.5 m where it opens to the Buzzard Table Room, named for a tabular breakdown block and buzzard bones found on it. The room is 2 m high, 1.7 m wide, and 4 m long. A small crawlway extends 2 m eastward from the room's northeast corner and cannot be explored further without digging. Southwest from the junction near the natural bridge, the passage also extends as high and low level crawls for 3.5 m to cross-joint passages which do not extend more than 2 to 3 m each. Continuing to the southwest, the passage averages 1 m high by 0.7 m wide for 17.5 m where it turns east and ends after 7 m. More 2 to 3 m long cross-joint passages occur in this area. The floor of the cave is predominantly clay, with some washed-in soil. Broken glass is common in most of the passages. The cave had once been used as trash dump, with whiskey and beer bottles comprising the bulk of the material.

Biology: A collection in the cave on 2 June 1993 by James Loftin, James Reddell, Marcelino Reyes, and George Veni included the following material:

Snails: Gastropoda
Terrestrial isopods: *Armadillidium vulgare* Latreille (?troglophile)
?Brackenridgia sp. (troglobite)
Spiders: Araneomorphae undetrmined
?Eidmannella sp.
Mites: Trombidiidae genus and species (parasite of *Ceuthophilus cunicularis*)
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Centipedes: Lithobiomorpha undetermined
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus (Ceuthophilus)* new species (trogloxene)
Ceuthophilus (Ceuthophilus) secretus Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Ground beetles: *Rhadine infernalis* (Barr and Lawrence) (troglobite)

Rove beetles: *Belonuchus* sp. (troglophile)
Gulf Coast toad: *Bufo valliceps* Wiegmann (trogloxene)

Genesis Cave (BCS #196)

Area: Quadrangle: Longhorn 7.5'.

Description: "The cave entrance is a narrow pit, 1 m long, 0.4 m wide, and 4 m deep, next to a shallow sinkhole. The pit drops into a 1.8 m wide passage which slopes downward 14 m to the north and gains a ceiling height of 3 m. The passage turns west 19 m, going through a minor reduction of ceiling height and passage width, and descends an additional 6 m. A series of short pitches lead to the northeast and downward for 10.6 m. At this pint the cave becomes a 1 m long crawl and opens over a 9.4 m deep pit. At the base of the pit is a 30 m long passage known as The Walkway. It is formed along a fault and heads southwest and northeast. To the southwes The Walkway is over 2 m high, 1 m wide, and ends after 12 m. Two passages extend to the northeast. An upper passage, about 4 m above the floor, lies directly over The Walkway and only goes 3.5 m before ending. The Walkway gains 9.8 m of depth as it slopes 18 m down to The Crawl. This 1 m wide, 47 m long crawlway zig-zags some, but overall it heads due east. The floor of The Crawl is a matrix of clay overlain by coarse gravel and many sharp, angular rocks. The ceiling height is no more than 1 m, with an average of 0.5 m; it may change in places after floodwaters rearrange the cobbles. Portions of the crawlway sometimes have to be dug open. Water is often ponded throughout much of The Crawl. The best thing about the crawl is that is opens to The Drain, a 22.8 m deep pit. Half-way down the pit is a 12 m high by 2.3 m wide passage that leads 18 m to the 8 m deep Mud Pit. A passage leading from the pit ends in mud fill within 7 m. From the base of The Drain a passage heads north, drops down a 3 m pit, goes through a hands-and-knees-sized crawlway for 6 m, and drops 4 m to the 3 m in diameter, 6 m high Sump Room. During low water levels the sump is open, and a crawlway extends 1 m northwest into the Phreatic Mud Chamber. The chamber is about 10 m long, 7 m wide, 2 m high, and floored with large blocks of breakdown that are heavily coated with mud. Gaps within the breakdown allow the cave to be explored only 2 m deeper—the bottom of the cave. At 78.0 m, Genesis is by far the deepest explored cave in Bexar County." (Veni, 1988) (See map, fig. 7, p. 72 .)

Biology: In addition to collected material, the cave also contains harvestmen (prob. *Leiobunum townsendii*), silverfish, and cave crickets (*Ceuthophilus* sp.). Collections in the cave on 19 and 29 June 1985 by Randy M. Waters, 3 February 1986 by Allan Cobb, and 14 September 1986 by William R. Elliott and Randy Waters included the following material:

Snails: Undetermined material
Terrestrial isopods: Oniscoidea genus and species
Brackenridgia sp. (troglobite)
Scorpions: *Vaejovis reddelli* (troglophile)
Spiders: *Cicurina (Cicurella)* sp. (troglobite)
Harvestmen: Probably *Leiobunum townsendii* Weed (trogloxene) (SIGHT RECORD)
Hoplobunus madlae (troglobite)
Millipedes: *Cambala speobia* (troglobite)
Slender springtails: *Pseudosinella violenta* (Folsom) (troglophile)
Silverfish: Thysanura undetermined
Ground beetles: *Rhadine infernalis* (Barr and Lawrence) (troglobite)
Rove beetles: *Eustilicus condei* (troglophile)

Government Canyon Bat Cave (#31)

Area: Government Canyon. Quadrangle: San Geronimo 7.5'.

Description: "A hole in the side of an elongate collapse sink opens into the northwest end of a chamber measuring 96 m long, 10 to 20 m wide, and 5 to 7 m high. Large breakdown blocks are scattered throughout the cave. Large stalagmites and some columns are also present." (Veni, 1988) Small

alcoves off of the room are the only guano-free areas in the cave. (See map, fig. 8, p. 73.)

Biology: The cave houses a significant colony of the Mexican brown bat *Myotis velifer incautus* J. A. Allen. Collections made in the cave on 11 August 1965 by John Fish and James Reddell and on 24 May 1993 by James Reddell and Marcelino Reyes included the following material:

Snails: Gastropoda undetermined
Terrestrial isopods: ?*Brackenridgia* sp. (troglobite)
Scorpions: *Vaejovis reddelli* Gertsch and Soleglad (troglophile)
Spiders: Araneomorphae undetermined
Cicurina (Cicurella) vespera Gertsch (troglobite)
Cicurina (Cicurusta) varians Gertsch and Mulaik (troglophile)
Neoleptoneta microps Gertsch (troglobite)
Meioneta sp. (troglophile)
Eidmannella pallida (Emerton) (troglophile)
Mites: Acarina undetermined
Trombidiidae genus and species (parasite of *Ceuthophilus* spp.)
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Speodesmus new species 1 (troglobite)
Slender springtails: Collembola undetermined
Pseudosinella violenta (Folsom) (troglophile)
Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Ground beetles: *Rhadine exilis* (Barr and Lawrence) (troglobite)
Rhadine howdeni (Barr and Lawrence) (troglophile)
Rhadine infernalis ewersi (Barr) x *Rhadine infernalis infernalis* (Barr and Lawrence) (troglobite)
Comb-clawed beetles: Alleculidae genus and species (troglophile)
Clown beetles: Histeridae genus and species (troglophile)
Rove beetles: *Belonuchus* sp. (troglophile)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)
Moths: Ditrysia undetermined
Flies: Diptera undetermined
Mosquitoes: Culicidae genus and species (trogloxene)
Fleas: Siphonaptera undetermined
Mexican brown bats: *Myotis velifer incautus* (Allen) (trogloxene)
Raccoons: *Procyon lotor* (Linnaeus) (trogloxene)

Grave Marker Cave (BCS #269)

Area: Culebra Anticline. Quadrangle: Lacoste NE 7.5'.

Description: The cave entrance is a teardrop-shaped pit measuring 0.55 m long by 0.3 m wide and 2.4 m deep. A 1.2 m high by 1.1 m wide passage extends about 2 m southwest of the pit and crosses a blind 2.15 m deep by 0.5 m diameter pit. About a meter past the pit the passage curves to the northwest and within 2 m ends at an unexplored 0.6 m diameter pit estimated at 4-5 m deep. The pit appears to slightly bell out near its base. The cave had been used as trash dump and several grave markers were found inside. James Loftin and Jeff Remboldt rediscovered and dug open the cave in 1992.

Biology: On 2 June 1993 by James Loftin and Marcelino Reyes found the following material:

Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Springtails: Collembola undetermined (SIGHT RECORD)
Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)
Rove beetles: *Belonuchus* sp. (troglophile)
Toads: ?*Bufo* sp. (SIGHT RECORD)
Cliff frog: *Syrrhophus marnocki* Cope (trogloxene)

Headquarters Cave (BCS #93)

Area: Stone Oak. Quadrangle: Camp Bullis 7.5'

Description: "From the entrance a crawlway goes a short way to the Entrance Room, 17 m long, 7 m wide, and up to 2 m high. A 13 m long crawl than extends south to the Back Room, 17 m by 11 m by 4.5 m high. A 2 m high passage heads east 7 m from this chamber down a breakdown slope to the end of the cave. The cave contained some speleothems prior to vandalism, and most of its floor is covered in breakdown." (Veni, 1988) (See map, fig. 9, p. 74.) In the 1980's, the entrance to the cave was trenched open and a gate was installed by the Camp Bullis land manager due to extensive traffic and vandalism. Much of the floor of the entrance room is covered by bullet casings and other trash.

Biology: Biological collections have been made in the cave on 19 April and 10 May 1959 by Ralph Ewers, on 24 April 1966 by David McKenzie and Bill Russell, and on 17 June 1993 by Scott Harden, James Reddell, Marcelino Reyes, and George Veni. The following is a fauna list:

Snails: Gastropoda undetermined
Earthworms: *Diplocardia* sp. (troglophile)
Terrestrial isopods: ?*Brackenridgia* sp. (troglobite)
Spiders: Araneomorphae undetermined
Cicurina (Cicurella) sp. (troglobite)
Cicurina (Cicurusta) varians Gertsch and Mulaik (troglophile)
Eidmannella pallida Emerton (troglophile)
Mites: Acarina undetermined
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Hoplobunus sp. (troglobite)
Centipedes: Lithobiomorpha undetermined (troglophile)
Scutigeridae genus and species (troglophile)
Millipedes: Parajulidae genus and species (accidental)
Eurymerodesmus sp. (accidental)
Symphylans: Symphyla undetermined
Springtails: Collembola undetermined
Slender springtails: *Pseudosinella violenta* (Folsom) (troglophile)
Insects: Insecta undetermined (larvae)
Subterranean silverfish: *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Cockroaches: Blattaria undetermined
Desert cockroaches: *Arenivaga ?tonkawa* Hebard (trogloxene)
Assassin bugs: *Triatoma ?gertstaeckeri* (Stal) (trogloxene)
Ground beetles: *Rhadine exilis* (Barr and Lawrence)(troglobite
Rhadine infernalis ewersi (Barr) (troglobite)
Comb-clawed beetles: Alleculidae genus and species (troglophile)
Soldier beetles: *Cantharis* sp. (?troglophile)
Clown beetles: Histeridae genus and species (?troglophile)
Rove beetles: *Belonuchus* sp. (troglophile)
Eustilichus condei (Jarrige) (troglophile)
Flies: Diptera undetermined
Mosquitoes: Culicidae genus and species (trogloxene)
Crane flies: Tipulidae genus and species (trogloxene)
Gulf Coast toad: *Bufo valliceps* Wiegmann (trogloxene)
Cliff frog: *Syrrhophus marnocki* Cope (trogloxene)
Western diamondback rattlesnake: *Crotalus atrox* Baird and Girard (trogloxene)
Mexican brown bats: *Myotis velifer incautus* (J.A. Allen) (trogloxene)

Helotes Blowhole (BCS #34)

Area: Helotes. Quadrangle: Helotes 7.5'.

Description: "Located in a cliff and about 4 m above Helotes Creek, the cave is a single passage 117 m long, 1 to 1.4 m wide, and 0.5 to 2 m high. This horizontal clay-covered passage ends in clay fill." (Veni, 1988) (See map, fig. 10, p. 75.)

Biology: Collections were made in the cave on 5 September 1977 by Gary Poole and Randy M. Waters and on 25 December 1982 by Randy M. Waters. The following is a fauna list:

Terrestrial isopods: Oniscoidea undetermined
Spiders: *Cicurina (Cicurella)* sp. (troglobite)
Eidmannella rostrata Gertsch (troglobite)
Harvestmen: Probably *Leiobunum townsendii* Weed (trogloxene) (SIGHT RECORD)
Subterranean silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus* sp. (trogloxene)
Ground beetles: *Rhadine infernalis* (Barr and Lawrence) (troglobite)
Rove beetles: *Eustilicus condei* (Jarrige) (troglophile)
Cliff frogs: *Syrrhophus marnocki* Cope (trogloxene)
Bats: Chiroptera undetermined (trogloxene)

Helotes Hilltop Cave (BCS #35)

Area: Helotes. Quadrangle: Helotes 7.5'.

Description: "Located in a small limestone outcrop, the 0.45 m diameter entrance drops 5 m to a short fissure passage that drops another 10 m into the main passage. To the north this passage divides into upper and lower levels. The upper level goes 12 m, over a 3.3 m deep pit, to a fork. The left branch is 11 m long and the right branch, 4 m. Off the fissure's lower level is the only room in the cave, 13 by 7 by 2.6 m high. A small crawlway heads 10 m north from this breakdown-floored room before ending. From the room a passag eleads south under and connects up into the fissure passage. Farther south along the lower passage are two 10 m high domes, the northern of which also connects to the fissure. Three passages lead south from the domes. Two are crawls up in the wall that converge and end within 10 m. The third passage is at floor level and is 1.2 m high; it goes 10 m to a fork. The left-hand passage is only 5 m long. The right-hand passage continues eastward for 9 m as a crawlway, then turns north and again to the east. Pushing on through Ivan's Squeeze, a constriction which follows the hands-and-knees crawl, the passage ends in 16 m at some 10 m high breakdown-floored domes. Helotes Hilltop cave is virtually devoid of speleothems except for abundant cave coral and popcorn lining its walls. (Veni, 1988) (See map, fig. 11, p. 76.).

Biology: Collections in the cave on 30 August 1964 by Orion Knox and on 29 September 1984 by Joe Ivy and George Veni included the following material:

Terrestrial isopods: ?*Brackenridgia* sp. (troglobite)
Scorpions: *Vaejovis reddelli* Gertsch and Soleglad (troglophile)
Spiders: Araneae undetermined (SIGHT RECORD)
Mites: Acarina undetermined
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Hoplobunus madlae Goodnight and Goodnight (troglobite)
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Speodesmus new species 1 (troglobite)
Slender springtails: *Pseudosinella violenta* (Folsom) (troglophile)
Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)
Mold beetles: *Batrisodes (Excavodes) venyivi* Chandler (troglobite)
Darkling beetles: *Blapstinus fortis* LeConte (accidental)

Isopit (BCS #143)

Area: Culebra Anticline. Quadrangle: Lacoste NE 7.5'.

Description: "Three 0.5 m diameter holes at the base of a solution sink drop 0.5 m to a ledge that overlooks the entrance room. The drop from the ledge into the 3 m diameter room is about 2.5 m. In the north end of the entrance room an 8 m drop to another ledge is followed by a 7 m drop to a stream passage. The stream passage averages less than 1 m high and wide. Domes along the stream are typically snug, 7 to 8 m high, and pinch too tight for exploration. Upstream, to the west, the stream goes about 40 m to a sump. Downstream, the passage reaches intermittent Sump I after 55 m. Sump I is 2.5 m long and opens into an east-trending passage that ends at Sump II after 37 m. Sump II also intermittently has very limited airspace and was pushed into about 90 m of stsream passage to Sump III. 'Dillo Dome, located 70 m downstream from Sump II, was named for a complete armadillo carcass at its base. Two passages lead off the 5 m high dome. The first, and probable source of the armadillo, is an entrenched passage which goes about 3 m to the northeast before pinching at a narrow domepit/canyon. The second passage goes up some breakdown, about 15 m above the stream passage, and can be seen to coninue up a dome for at least 7 m. Exploration is hampered by a constsriction in the dome. Location of this dome on the surface, followed by digging, may yield a new entrance to the cave." (Veni, 1988) (See map, fig. 12, p. 77.) About 1985 a house was built within 30 m of the cave. Drilling mud from a water well near the house was poured into the cave and blocked access. When the cave was next visited in June 1993, the entrance had washed open.

Biology: Collections have been made in the cave on 13 February 1983 by Scott Harden; in March 1983 by Eric Short; on 4 December 1983 by Scott Harden and Joe Ivy; on 8 January 1984 by Scott Harden and Randy Waters; on 6 June 1984 by Scott Harden; on 17 September 1984 by Joe Ivy and George Veni; and on 15 June 1993 by James Loftin, James Reddell, and Marcelino Reyes. The following is a fauna list:

Snails: Gastropoda undetermined
Helicina orbiculata (Say) (accidental)
Lymnaea sp. (accidental)
Helicodiscus eigenmanni Pilsbry (troglophile)
Amphipods: *Stygobromus russelli* (Holsinger) (troglobite)
Aquatic isopods: *Cirolanides texensis* Benedict (troglobite)
Terrestrial isopods: Oniscoidea genus and species
?Brackenrdigia sp. (troglobite)
Scorpions: *Vaejovis reddelli* Gertsch and Mulaik (troglophile)
Spiders: Araneomorphae undetermined
Cicurina (Cicurusta) varians Gertsch and Mulaik (troglophile)
Eperigone sp. (?accidental)
Meioneta sp. (troglophile)
Eidmannella rostrata Gertsch (troglobite)
Achaearanea porteri (Banks) (troglophile)
Mites: Acarina undetermined
Trombidiidae genus and species (parasite of *Ceuthophilus cunicularis*)
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Hoplobunus madlae Goodnight and Goodnight (troglobite)
Centipedes: Lithobiomorpha undetermined
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Oxidus gracilis (Koch) (troglophile)
Springtails: Collembola undetermined
Slender springtails: *Pseudosinella violenta* (Folsom) (troglophile)
Slender entotrophs: Campodeidae genus and species
Insects: Insecta undetermined (larvae)
Subterranean silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Crickets: *Gryllus* sp. (accidental)
Cave crickets: *Ceuthophilus (Ceuthophilus)* new species (trogloxene)

Ceuthophilus (Ceuthophilus) secretus Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Ceuthophilus (Geotettix) ?umbratilis Hubbell (trogloxene)
Homopterans: Homoptera undetermined (accidental)
Thrips: *Frankliniella* sp. (accidental)
Ground beetles: Carabidae genus and species
Rhadine infernalis (Barr and Lawrence) (troglobite)
Comb-clawed beetles: Alleculidae genus and species (troglophile)
Rove beetles: *Belonuchus* sp. (troglophile)
Orus (Leucorus) rubens Casey (troglophile)
Philonthus sp. (troglophile)
Darkling beetles: Tenebrionidae genus and species
Clothes moths: Tineidae genus and species (?troglophile)
Flies: Diptera undetermined

Jessica's Pit (BCS #261)

Area: UTSA. Quadrangle: Helotes 7.5'.

Description: The cave entrance is 37 cm in diameter. It drops 1 m, then runs horizontally for 1.8 m to a 12 m deep pit. The pit's dirt floor slopes down an additional 2.4 m in depth into an area about 1.7 m high by 0.45 m wide.

Biology: Earlier visits to the cave report silverfish and harvestmen, but none were seen in 1993. At that time the cave was completely overrun with fire ants. A collection on 22 June 1993 by James Loftin included the following material:

Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Lamellicorn beetles: Scarabaeidae genus and species
Rove beetles: *Belonuchus* sp. (troglophile)
Eustilicus condei (Jarrige) (troglophile)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)

John Wagner Ranch Cave No. 3 (BCS #43)

Area: UTSA. Quadrangle:Helotes 7.5'.

Description: "The major portion of this cave is its amphitheater-like entrance room about 15 m in diameter and 3 m high. Near the ceiling behind some highly weathered speleothems are three crawls to the north. Along the west wall is the Middle Level Crawl. It is the tightest of the three and goes 10 m before pinching too small. One meter east of the Middle Level Crawl is the 9 m long Lower Level Crawl. It ends in collapse but can be seen to continue beyond the breakdown. Above and east of the Lower Level Crawl is the 16 m long Uper Level Crawl, which drops into the 6 m long continuation of the Lower Level Crawl. A meter south of the drop to the Lower Level is a squeeze in the ceiling to the 8 m long Upper Uper Level. A small Upper Upper Upper Level can be seen from the Upper Upper Level but a constriction prevents entry." (Veni, 1988) (See map, fig. 13, p. 78.)

Biology: The cave was biologically investigated on 23 December 1962 by Cookie Heubner and Orion Knox; on 6 October 1963 by James Reddell; on 25 January 1985 by Scott Harden; on 15 June 1993 by James Loftin, James Reddell, Marcelino Reyes, and George Veni; and on 14 July 1993 by James Reddell and Marcelino Reyes. The following is a fauna list:

Snails: Gastropoda undetermined
Helicodiscus eigenmanni Pilsbry (troglophile)
Terrestrial isopods: *Metoponorthus* sp. (?troglophile)
?*Brackenridgia* sp. (troglobite)

Scorpions: *Vaejovis reddelli* Gertsch and Soleglad (troglophile)
Spiders: Araneomorphae undetermined
Cicurina (Cicurella) species (troglobite)
?Neoleptoneta sp.
Opilionids: *Leiobunum townsendii* Weed (trogloxene)
Hoplobunus sp. (troglobite)
Texella ?cokendolpheri Ubick and Briggs (troglobite)
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Speodesmus new species 1 (troglobite)
Springtails: Collembola undetermined
Cave crickets: *Ceuthophilus (Ceuthophilus)* new species (trogloxene)
Ceuthophilus (Ceuthophilus) secretus Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Bark lice: Psocoptera undetermined
Ground beetles: *Rhadine exilis* (Barr and Lawrence) (troglobite)
Rhadine infernalis infernalis (Barr and Lawrence) (troglobite)
Comb-clawed beetles: Alleculidae genus and species (troglophile)
Rove beetles: *Belonuchus* sp. (troglophile)
Orus (Leucorus) rubens Casey (troglophile)
Ants: *Leptogenys elongata* (Buckley) (accidental)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)
Flies: Diptera undetermined (SIGHT RECORD)
Mosquitoes: Culicidae genus and species (SIGHT RECORD)
White-throated slimy salamander: *Plethodon albagula* Grobman (trogloxene)

Kamikazi Cricket Cave (BCS #99)

Area: UTSA. Quadrangle: Helotes 7.5'.

Description: "A narrow keyhole-shaped entrance pit enlarges to 2 m in diameter while dropping 6.3 m to the cave floor. The highest and most extensive of the cave's four levels is 4 m below the entrance. To the east of the entrance pit this first level is a 1 m wide by 1.5 m high passage which ends after 4.5 m. To the west this passage continues from the opposite side of the entrance pit and extends 2 m to a fork. The right fork is up to 2.2 m high and 1.7 m wide. After 11 m the passage slopes up to an entrenched crawlway which pinches too small within an additional 6 m. The left fork of the westbound passage drops 2.6 m to the second level before resuming along the first level after 5 m. Within 6 m farther to the west, the first level passage stair-steps upward and ends in a crawlway filled with dirt, organic debris, and rocks. The end of the crawl is about 0.5 m below the surface. The second level is at the floor of the entrance pit. To the east of the entrance is a stoopway which becomes too small to explore after 4 m. To the west the second level goes down a rubble slope into a 4.5 m long by 0.5 m wide, multiple natural-bridge ceilinged passage. The passage leads to the base of a 2.2 m drop, which extends off the 2.6 m drop from the first level's left fork passage. The second level passage slopes down 1 m into the third level and to a 2.3 m drop to the fourth level. The westward extend of the third level can only be entered by climbing up through a slot in the ceiling of the fourth level. Access from the top of the 2.3 m drop is prohibited by a very narrow passage width. From the floor of the 2.3 m drop the passage goes east 2 m, past a nartural bridge, and drops 2 m to the floor of the fourth level. West of the base of the 2.3 m drop is a vertical, cave-coral-encrusted squeeze down to the fourth level floor, connecting to the bottom of the aforementioned to m drop by a 4 m long eastbound crawlway. The main extent of the fourth level extends 2.5 m to the west and is 1.5 m wide by 5 m high. An impassably small slot in the floor is the drain for the cave." (Veni, 1988) (See map, fig. 14, p. 79.)

Biology: The cave was biologically investigated on 3 October 1984 by Joe Ivy and George Veni; on 19 January 1986 by Allan Cobb and Scott J. Harden; and on 10 June 1993 by James Reddell and Marcelino Reyes. The following is a fauna list:

Terrestrial flatworms: Terricola undetermined (accidental)

Snails: Gastropoda undetermined
Helicodiscus eigenmanni Pilsbry (troglophile)
Polygyra mooreana (W.G. Binney) (accidental)
Terrestrial isopods: Oniscoidea undetermined
?*Brackenridgia* sp. (troglobite)
Scorpions: *Vaejovis ?reddelli* Gertsch and Soleglad (troglophile)
Spiders: Araneomorphae undetermined
Cicurina (Cicurella) sp. (troglobite)
Cicurina (Cicurusta) varians Gertsch and Mulaik (troglophile)
Neoleptoneta n. sp. (troglophile)
Achaearanea porteri (Banks) (troglophile)
Pseudoscorpions: *Tyrannochthus ?texanus* Muchmore (troglophile)
Mites: Acarina undetermined
Trombidiidae genus and species (parasite of *Ceuthophilus*)
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Hoplobunus madlae Goodnight and Goodnight (troglobite)
Centipedes: Geophilomorpha undetermined
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Orthoporus ?texicolens Chamberlin (accidental)
Speodesmus sp. (troglobite)
Oxidus gracilis (Koch) (troglophile)
Springtails: Collembola undetermined
Slender springtails: *Pseudosinella violenta* (Folsom) (troglophile)
Slender entotrophs: Campodeidae genus and species
Subterranean silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus (Ceuthophilus)* new species (trogloxene)
Ceuthophilus (Ceuthophilus) secretus Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Beetles: Polyphaga undetermined
Ground beetles: *Rhadine exilis* (Barr and Lawrence) (troglobite)
Rhadine infernalis (Barr and Lawrence) (troglobite)
Comb-clawed beetles: Alleculidae genus and species (troglophile)
Rove beetles: Aleocharinae genus and species
Belonuchus sp. (troglophile)
Orus (Leucorus) rubens Casey (troglophile)
Ants: *Leptogenys elongata* (Buckley) (accidental)
Fire ants: *Solenopsis (Solenopsis) geminata* (Fabricius) (?accidental)
Solenopsis (Solenopsis) invicta Buren (trogloxene)
Toads: ?*Bufo* sp. (SIGHT RECORD)

King Toad Cave (BCS #262)

Area: Culebra Anticline. Quadrangle: Lacoste NE 7.5'.

Description: A small unclimbable pit in solid rocks drops to a total depth of 12 m to several small passages. Total length of the cave is 33.7 m.

Biology: A collection made in the cave on 1 June 1993 by James Loftin and Marcelino Reyes included the following material:

Terrestrial isopods: ?*Brackenridgia* sp. (troglobite)
Spiders: Araneomorphae undetermined
Centipedes: Lithobiomorpha undetermined
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Roaches: Blattaria undetermined

Ground beetles: *Rhadine infernalis* (Barr and Lawrence) (troglobite)
Toads: ?*Bufo* sp. (SIGHT RECORD)

Linda's First (Cave Find) (BCS #291)

Area: Culebra Anticline. Quadrangle: Lacoste NE 7.5'.
Description: No description of this cave is available.
Biology: A collection on 13 June 1993 by Lacey Loftin, James Loftin, and Spencer Woods included the following material:

Spiders: Araneomorphae undetermined
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Centipedes: Geophilomorpha undetermined
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Springtails: Collembola undetermined
Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Beetles: Polyphaga undetermined
Comb-clawed beetles: Alleculidae genus and species
Rove beetles: Aleocharinae genus and species
Belonuchus sp. (troglophile)
Sepedophilus sp. (accidental)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)
Flies: Diptera undetermined

Logan's Cave (BCS #226)

Area: UTSA. Quadrangle: Helotes 7.5'.
Description: The cave entrance is a 1 meter diameter by 2.5 m deep pit in a hillside. This drops into a broad collapsed chamber. On one side of this chamber is a small humanly inaccessible opening to the surface. From the entrance chamber a wide low passage extends to a series of short drops and slopes leading down into large rooms which are not as wide as the entrance room but much higher. Deeper still in the cave are high crevice-type passages and at least one small stream. The estimated explored length is about 700 m and the estimated depth is 40 m, but the cave remains only partially explored.
Biology: Old guano covers much of the floor and staining of the ceiling indicates it once housed a significant bat colony, but no bats have been seen in the cave. Collections were made in the cave in April 1987 by Andy Grubbs, Blake Harrison, and Chris Thibideaux; on 10 May 1992 by George Veni; and on 8 June 1993 by James Loftin, James Reddell, Marcelino Reyes, and George Veni. The following is a fauna list:

Snails: Gastropoda undetermined
Earthworms: Haplotaxida undetermined
Terrestrial isopods: ?*Brackenridgia* sp. (troglobite)
Scorpions: *Vaejovis ?reddelli* Gertsch and Soleglad (troglophile)
Spiders: Araneomorphae undetermined
Cicurina (Cicurella) sp. (troglobite)
?*Neoleptoneta* sp.
Harvestmen: *Hoplobunus* sp. (troglobite)
Texella sp. 1 (troglobite)
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Speodesmus sp. (troglobite)
Springtails: Collembola undetermined
Slender springtails: *Pseudosinella violenta* (Folsom) (troglophile)
Subterranean silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)

Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)
Ground beetles: *Rhadine exilis* (Barr and Lawrence) (troglobite)
Rhadine infernalis (Barr and Lawrence) (troglobite)
Comb-clawed beetles: Alleculidae genus and species (troglophile)
Rove beetles: *Belonuchus* sp. (troglophile)
Eustilicus condei (Jarrige) (troglophile)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)
Moths: Ditrysia undetermined
Cliff frog: *Syrrhophus marnocki* Cope (trogloxene)

Lost Mine Trail Cave (BCS #284)

Area: UTSA. Quadrangle: Castle Hills 7.5'.

Description: Twin shafts, about 0.7 m in diameter respectively drop 2.4 and 3 m and connect at the rubble-covered floor via a 2 m long passage. A passage extends perpendicular from the deeper pit and can be seen to extend at least 2 m but needs digging to be accessible.

Biology: A collection in the cave on 17 June 1993 by James Reddell and Marcelino Reyes included the following material:

Spiders: Araneomorphae undetermined
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)

Madla's Cave (BCS #46)

Area: Helotes. Quadrangle: Helotes 7.5'.

Description: "Madla's Cave is a single large chamber that is segregated into 'rooms' and 'passages' by collapse. The small entrance is on a hillside in the northern end of a collapsed area. Immediately inside the entrance, the cave opens up into a passage measuring 25 m long by 6 m wide and 2 m high. This passage ends at a breakdown slope downt o the Big Room. About 16 by 12 by 10 m high, the Big Room has three passages extending from it. The first is an 18 m long muddy eastbound tunnel that averages 1.4 m high by 1.0 m wide. The second passage heads west for 40 m, and the third passage goes south for 13 m, then west for 45 m. The last two passages end in breakdown and follow the north and south walls of the original pre-collapse chamber. A hole in the ceiling of the third passage leads into a major room not shown on the map. 'Normandy,' as it is called, is square, about 15 m to a side, and has a ceiling height of 3 m. This room is infrequently visited and therefore is the most decorated and least vandalized part of this popular, well-known cave. Normandy's collapsed north wall is the underside of the surface collapse area near the entrance." (Veni, 1988) (See map,k fig. 15, p. 80.)

Biology: Collections have been made in the cave on 16 December 1962 by Orion Knox; on 23 December 1962 by Cookie Heubner and Orion Knox; on 6 October 1963 by David McKenzie and James Reddell; on 1 April 1965 by James Reddell; on 7 June 1969 by Roger V. Bartholomew; and on 24 May 1993 by James Reddell and Marcelino Reyes. On the last date, leaf litter was returned to the laboratory for processing by Berlese funnel. The following is a fauna list:

Earthworms: Haplotaxida undetermined
Bimastos sp. (troglophile)
Terrestrial isopods: Oniscoidea undetermined
Brackenridgia cavernarum Ulrich (troglobite)
Scorpions: *Vaejovis reddelli* Gertsch and Soleglad (troglophile)
Spiders: Araneomorphae undetermined
Cicurina (Cicurella) madla Gertsch (troglobite)
Cicurina (Cicurusta) varians Gertsch and Mulaik (troglophile)
Eidmannella rostrata Gertsch (troglobite)
Pseudoscorpions: *Tyrannochthonius texanus* Muchmore (troglophile)

Mites: Acarina undetermined
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Hoplobunus madlae Goodnight and Goodnight (troglobite)
Centipedes: Chilopoda undetermined
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Springtails: Collembola undetermined
Slender springtails: *Pseudosinella violenta* (Folsom) (troglophile)
Insects: Insecta undetermined (larvae)
Subterranean silverfish: *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
True bugs: Hemiptera undetermined
Assassin bugs: *Triatoma* sp. (trogloxene)
Thrips: Terebrantia undetermined (accidental)
Ground beetles: *Clivina* sp. (?troglophile)
Rhadine infernalis infernalis (Barr and Lawrence) (troglobite)
Beetles: Polyphaga undetermined
Comb-clawed beetles: Alleculidae genus and species (troglophile)
Rove beetles: Aleocharinae genus and species
Belonuchus sp. (troglophile)
Carpelimus sp. (accidental)
Eustilicus condei (Jarrige) (troglophile)
Hymenopterans: Hymenoptera undetermined (accidental)
Flies: Diptera undetermined
Mosquitoes: Culicidae genus and species (trogloxene)
White-throated slimy salamander: *Plethodon albagula* Grobman (trogloxene)
Barking frogs: *Hylactophryne augusti latrans* (Cope) (trogloxene)
Cliff frog: *Syrrhophus marnocki* Cope (trogloxene)
Bats: Chiroptera undetermined

Madla's Drop Cave (BCS #166)

Ara: Helotes. Quadrangle: Helotes 7.5'.

Description: An area of about 100 m long by 30 m wide drains down a steep hillside into the cave's 9.4 m deep entrance pit. The pit is 0.8 m long by 0.5 m wide, and is chimneyable for half its depth to a ledge which overlooks a room. The room is one of the largest in Bexar County at 17 m long by 7 m wide. The ceiling is relatively flat, but the south-sloping floor varies the ceiling height from 5 to 8 m. The floor is mostly cobbles and breakdown, with some scattered flowstone and a few 1 meter high stalagmites. The southern portion of the room is partially blocked by a wall of columns. A dome on the north side of the columns extends about 2 m above the average ceiling level. The southern side of the columns is an area with a flat floor of organic, sometimes muddy, soil. The ceiling averages 2 to 3 m high. A 0.2 to 1 m high by 2 m wide passage extends east for 4 m from the room's southeast corner before ending. An upper passage along the room's southeast wall drops down to this passage, and also connects up to a passage located 4 m up in the east wall in the upper portion of the room. (See map, fig. 16, p. 81.)

Biology: A collection was made on 8 June 1993 by James Loftin, James Reddell, Marcelino Reyes, and George Veni. A 20 cm by 25 cm abandoned fire ant mound was found on the floor of the flat area at the bottom of the cave.

Snails: Gastropoda undetermined
Terrestrial isopods: ?*Brackenridgia* sp. (troglobite)
Spiders: Araneomorphae undetermined
Cicurina (*Cicurella*) sp. (troglobite)
?*Neoleptoneta* sp.

Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Hoplobunus sp. (troglobite)
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Speodesmus sp. (troglobite)
Springtails: Collembola undetermined
Insects: Insecta undetermined (larvae)
Silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus* sp. (trogloxene)
Ceuthophilus (Ceuthophilus) secretus Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Ground beetles: *Rhadine infernalis* (Barr and Lawrence) (troglobite)
Comb-clawed beetles: Alleculidae genus and species (troglophile)
Rove beetles: *Eustilicus condei* (Jarrige) (troglophile)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)
White-throated slimy salamander: *Plethodon albagula* Grobman (trogloxene)

Mastodon Pit (BCS #243)

Area: UTSA. Quadrangle: Castle Hills 7.5'.

Description: A 1 m diameter entrance drops 8.1 m and steeply slopes down to a constriction at the top of an 8.2 m deep pit. The base of the upper pit is a bedrock floor measuring 3 m long by 1.3 m wide, and the base of the second pit is a 3 m long by 2 m wide dirt and rock floor.

Biology: A collection on 17 June 1993 by Scott Harden and George Veni included the following material:

Snails: Gastropoda undetermined
Terrestrial isopods: *?Brackenridgia* sp. (troglobite)
Spiders: Araneomorphae undetermined
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Springtails: Collembola undetermined
Insects: Insecta undetermined (larvae)
Silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)
Ground beetles: *Rhadine exilis* (Barr and Lawrence) (troglobite)
Rove beetles: *Eustilicus condei* (Jarrige) (troglophile)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)

Mattke Cave (BCS #47)

Area: UTSA. Quadrangle: Helotes 7.5'.

Description: "The triangular entrance sits obscurely in a cliffside and drops 2.8 m into the firt room, which measures about 4 m in diameter and 1.5 m high. The floor slopes down to an adjoining second room that is 7 m long by 3 m wide and 0.7 to 2 m high. Two small, 3 m long side passages extend into the room's west wall." (Veni, 1988) (See map, fig. 17, p. 82.) A small hole from the ceiling of the dome at the back of the first room extends to an impassable hole to the surface.

Biology: A collection on 10 June 1993 by David McKenzie, James Reddell, and Marcelino Reyes included the following material:

Snails: Gastropoda undetermined
Terrestrial isopods: *Metoponorthus* sp. (?troglophile)
Scorpions: *Vaejovis ?reddelli* Gertsch and Soleglad (troglophile)
Spiders: Araneomorphae undetermined
Cicurina (*Cicurella*) sp. (troglobite)

Cicurina (Cicurella) sp. (six-eyed) (?troglobite)
Pseudoscorpions: *Chthonius (Ephippiochthonius)* sp. cf. *tetrachelatus* (Preyssler) (troglophile)
Tartarocreagris new species (troglobite)
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Millipedes: *Desmonus* sp. (accidental)
Cave crickets: *Ceuthophilus (Geotettix) cunicularis* Hubbell (trogloxene)
Ground beetles: *Rhadine infernalis* (Barr and Lawrence) (troglobite)
Rove beetles: *Belonuchus* sp. (troglophile)
Eustilicus condei (Jarrige) (troglophile)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)
Moths: Ditrysia undetermined
Mosquitoes: Culicidae genus and species
White-throated slimy salamander: *Plethodon albagula* Grobman (trogloxene)
Turtles: Chelonia undetermined

Poison Ivy Pit (BCS #52)

Area: Stone Oak. Quadrangle: Bat Cave 7.5'.

Description: "Poison Ivy Pit is simply a series of five short consecutive drops that measure 3, 5, 7, 5, and 4 m deep. The cave ends in a mud plug at a depth of 32.3 m. Speleothems are few and small, and the cave's namesake hangs in abundance down its first pit." (Veni, 1988) (See map, fig. 18, p. 83.) In May 1993, the ranch foreman built a rebar grid over the cave to prevent access and accidental injury. However, the grid did not cover the entire entrance and the spacing of the bars would also not keep most people out.

Biology: Collections were made in the cave on 15 August 1983 by Kurt Menking, Eric Short, George Veni, and Randy M. Waters; and on 17 June 1993 by James Reddell and Marcelino Reyes. The following is a fauna list:

Snails: Gastropoda undetermined
Terrestrial isopods: ?*Brackenridgia* sp. (troglobite)
Spiders: Araneomorphae undetermined
Eidmannella rostrata Gertsch (troglobite)
Modisimus texanus Banks (troglophile)
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Millipedes: *Abacion texense* (Loomis) (accidental)
Subterranean silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus (Ceuthophilus)* new species (trogloxene)
Ceuthophilus (Ceuthophilus) secretus Scudder (trogloxene)
Ground beetles: *Rhadine* sp. cf. *speca* (Barr and Lawrence) (troglobite)
Rove beetle: *Eustilicus condei* (Jarrige) (troglophile)
Ants: *Crematogaster (Crematogaster) laeviuscula* Mayr (accidental)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)
Rattlesnakes: *Crotalus* sp.

Pot-Bellied Stove Cave (BCS #270)

Area: Culebra Anticline. Quadrangle: Lacoste NE 7.5'.

Description: Three holes, each about 30-40 cm in diameter and no more than 1 m apart, are aligned along a joint and drop into the cave. The northernmost hole is the largest and main entrance, and drops about 2 m down a pit. A tight crawlway about 0.5 m below the surface extends north at least 2 m and southward to connect the other two entrances. A steeply sloping passage extends from the floor of the pit but has not been explored.

Biology: The cave was completely overrun by fire ants when entered on 2 June 1993 by James Loftin

and Marcelino Reyes. A large fire ant mound was present at the bottom of the entrance drop. The only fauna found were fire ants, *Solenopsis (Solenopsis) invicta* Buren, and a few cave crickets (*Ceuthophilus* sp.) that could not be caught.

Robber Baron Cave (BCS #56)

Area: Alamo Heights. Quadrangle: Longhorn 7.5'.

Description: "By far the longest cave in Bexar County, Robber Baron Cave is a complex maze of passages. Its 1336 m of interconnecting corridors are within a roughly triangular area measuring about 100 m on a side. Located near the northeast corner of the triangle (oriented with the apex pointing south), the entrance sinkhole is 10 m in diameter and ranges from 2 m deep along the east wall to 9.2 m at the west wall." (Veni, 1988) Passages in the cave range from less than 1 to more than 3 m in height and typically are fissure-like with flat floors and narrow ceilings. Once commercialized, many passages have been enlarged by excavation to allow walking. Early reports indicate that the cave was once much more extensive than at present. Some passages were sealed by the commercial developer and others have apparently collapsed as a result of development in the area. (See map, fig. 19, p. 84.)

Biology: Collections have been made in the cave on 28 February 1969 by Roger V. Bartholomew; in April 1969 by Roger V. Bartholomew; on 26 December 1980 by George Veni; on 17 January 1981 by George Veni; on 10 March 1982 by A. G. Grubbs, Bill Steele, and Randy M. Waters; on 3 April 1982 by A. G. Grubbs; on 11 December 1982 by Randy M. Waters; on 6 April 1983 by Randy M. Waters; on 1 May 1983 by Randy M. Waters; on 9 and 11 December 1983 by Scott Harden and Randy M. Waters; in January 1984 by Randy M. Waters; on 31 March 1985 by Doug Drysdale and Randy M. Waters; on 21 February 1986 by Scott J. Harden; on 14 September 1986 by Randy M. Waters and William R. Elliott; on 8 March 1987 by James Reddell and Marcelino Reyes; on 22 May 1993 by James Reddell and Marcelino Reyes; and on 25 June 1993 by Andy Grubbs, James Reddell, and Marcelino Reyes. The following is a fauna list:

Snails: *Helicodiscus eigenmanni* Pilsbry (troglophile)
Mesodon roemeri (Pfeiffer) (trogloxene)
Glyphyalinia umbilicata (Singley) (accidental)
Zonitoides arboreus (Say) (accidental)
Earthworms: Haplotaxida undetermined
Terrestrial isopods: Oniscoidea undetermined
Trichoniscidae ?undescribed genus and species (troglobite)
?*Brackenridgia* sp. (troglobite)
Spiders: Araneomorphae undetermined
Metaltella simoni (Keyserling) (accidental)
Cicurina (Cicurella) baronia Gertsch (troglobite)
Cicurina (Cicurusta) varians Gertsch and Mulaik (troglophile)
Drassyllus sp. (accidental)
Eidmannella rostrata Gertsch (troglobite)
Achaearanea porteri (Banks) (troglophile)
Achaearanea tepidariorum (Koch) (troglophile)
Pseudoscorpions: *Microbisium parvulum* (Banks) (troglophile)
Mites: Acarina undetermined
Harvestmen: *Texella cokendolpheri* Ubick and Briggs (troglobite)
Centipedes: *Theatops* new species (troglobite)
Lithobiomorpha undetermined (troglophile)
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Speodesmus new species 2 (troglobite)
Oxidus gracilis (Koch) (troglophile)
Slender springtails: *Pseudosinella violenta* (Folsom) (troglophile)
Sinella (Coecobrya) caeca (Schott) (accidental)
Earwiglike entotrophs: *Mixojapyx reddelli* Muegge (troglobite)

Subterranean silverfish: *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus (Geotettix) cunicularis* Hubbell (trogloxene)
Earwigs: Dermaptera undetermined
German cockroaches: *Euthlastoblatta* sp. (trogloxene)
American cockroaches: *Periplaneta* sp. (accidental)
Assassin bugs: *Triatoma* sp. (trogloxene)
Ground beetles: Carabidae genus and species
Comb-clawed beetles: *Hymenorus* sp. (troglophile)
Click beetles: *Ampedus* sp. (accidental)
Conoderus sp. (accidental)
Telephone-pole beetles: *Micromalthus debilis* LeConte (accidental)
Mold beetles: *Batrisodes* ?n. sp. (troglobite)
Lamellicorn beetles: *Cotinis* sp. prob. *texana* (Casey) (accidental)
Darkling beetles: *Blapstinus fortis* LeConte (accidental)
Noctuid moths: Noctuinae genus and species
Flies: Diptera undetermined
Mosquitoes: *Culiseta* sp. prob. *inornatus*Willistin (trogloxene)
Blow flies: *Calliphora vicina* (R.-D.) (accidental)
Packrats: *Neotoma* sp. (trogloxene)

Robber's Cave (BCS #57)

Area: UTSA. Quadrangle: Helotes 7.5'.

Description: "A 9 m deep pit opens into the middle of a 17 m diameter room. Breakdown and dripstone speleothems slope down and away to the walls for a total depth of 14 m." (Veni, 1988) (See map, fig. 20, p. 85.) Since development of the area near the cave the cave has received considerable trash and been vandalised.

Biology: Staining of the ceiling indicates that the cave was once inhabited by bats, but none have been seen in the cave and frequent visits by local people may have driven them out. Collections were made in the cave on 3 September 1987 by Allan Cobb and George Veni; on 22 June 1993 by James Loftin, James Reddell, and Marcelino Reyes; and on 14 July 1993 by James Reddell and Marcelino Reyes. The following is a fauna list:

Earthworms: Haplotaxida undetermined
Terrestrial isopods: ?*Brackenridgia* sp. (troglobite)
Spiders: Araneomorphae undetermined
Cicurina (Cicurella) sp. (troglobite)
Mites: Acarina undetermined
Acarina undetermined (parasite of *Rhadine exilis* and *Rhadine infernalis*)
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Hoplobunus sp. (troglobite)
Texella sp. 1 (troglobite)
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Speodesmus sp. (troglobite)
Springtails: Collembola undetermined
Slender springtails: *Pseudosinella violenta* (Folsom) (troglophile)
Insects: Insecta undetermined (larvae)
Subterranean silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus (Ceuthophilus)* new species (trogloxene)
Ceuthophilus (Ceuthophilus) secretus Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Ground beetles: Carabidae genus and species
Rhadine exilis (Barr and Lawrence) (troglobite)
Rhadine infernalis (Barr and Lawrence) (troglobite)

Comb-clawed beetles: Alleculidae genus and species (troglophile)
Rove beetles: *Belonuchus* sp. (troglophile)
Eustilicus condei (Jarrige) (troglophile)
Hymenopterans: Hymenoptera undetermined (accidental)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)
Moths: Ditrysia undetermined
Flies: Diptera undetermined
Rio Grande leopard frog: *Rana berlandieri* Baird (accidental)
Copperhead: *Ankistrodon contortrix* (Linnaeus) (accidental)
Rattlesnakes: *Crotalus* sp.
Mice: Rodentia undetermined (trogloxene)

Scorpion Cave (BCS #65)

Area: UTSA. Quadrangle:Helotes 7.5'.

Description: "A 0.5 m diameter hole drops 3.8 m into Scorpion Cave, most of which is a single room 12 m by 2.7 m and 3 m high. East of the entrance is a small hole in the floor that leads into a tiny 'room' below. To the northwest the cave drops 2.8 m and ends in an excavated crawlway. The crawlway enlarges after 1.6 m to a 1.6 m diameter by 1.6 m high room. Centered in it is the very narrow, blind, 3.5 m deep, 'One Way Pit.'" (Veni, 1988) (See map, fig. 21, p. 86.)

Biology: A collection from the cave on 1 June 1993 by James Loftin, James Reddell, Marcelino Reyes, and George Veni included the following material:

Snails: Gastropoda undetermined
Terrestrial isopods: ?*Brackenridgia* sp. (troglobite)
Scorpions: *Vaejovis reddelli* Gertsch and Soleglad (troglophile)
Spiders: Araneomorphae undetermined
Cicurina (*Cicurella*) sp. (troglobite)
?*Neoleptoneta* sp.
Mites: Trombidiidiidae genus and species (parasite of *Ceuthophilus*)
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Hoplobunus sp. (troglobite)
Millipedes: *Speodesmus* sp. (troglobite)
Springtails: Collembola undetermined
Silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus* sp. (trogloxene)
Bark lice: Psocoptera undetermined
Ground beetles: *Rhadine infernalis* (Barr and Lawrence) (troglobite)
Comb-clawed beetles: Alleculidae genus and species
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)
Flies: Diptera undetermined
White-throated slimy salamander: *Plethodon albagula* Grobman (trogloxene)

Sink Hole (BCS #70)

Area: Stone Oak. Quadrangle: Bat Cave 7.5'.

Description: "From the base of a small sinkhole, a crazwlway extends through some collapse for 9 m to a small 1 m high 'room.' (Veni, 1988) (See map, fig. 22, p. 87.)

Biology: A collection on 17 June 1993 by Scott Harden and George Veni included the following material:

Snails: Gastropoda undetermined
Spiders: Araneomorphae undetermined
Mites: Acarina undetermined

Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Centipedes: Lithobiomorpha undetermined
Symphylans: Symphyla undetermined
Springtails: Collembola undetermined
Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)

Stevens Ranch Cave No. 1 (BCS #266)

Area: Culebra Anticline. Quadrangle: Lacoste NE 7.5'.

Description: A large shallow sinkhole surrounds and drops 3 m into a vertically-walled 10 m long by 5 m wide sinkhole. At its southwest corner is the 0.4 m high by 0.8 m wide cave entrance. The entrance passage enlarges to about 1 m high within 6 m, then splits with one passage continuing 4 m to the southwest and another heading northwest for 5 m. Both passages are choked with sediment and will require extensive digging before being enterable. Reports indicate that it was once possible to walk back into the cave and that it was more extensive than at present. Clearing of the area draining into the cave has doubtless led to increased erosion that has now largely filled the cave with sediment.

Biology: A collection made in the cave on 1 June 1993 by James Loftin, James Reddell, Marcelino Reyes, and George Veni included the following material:

Snails: Gastropoda undetermined
Terrestrial isopods: *Armadillidium vulgare* Latreille (?troglophile)
Spiders: Araneomorphae undetermined
Mites: Acarina undetermined
Trombidiidae genus and species (parasite of *Ceuthophilus*)
Centipedes: Lithobiomorpha undetermined
Millipedes: *Abacion texense* (Loomis) (accidental)
Springtails: Collembola undetermined
Insects: Insecta undetermined (larvae)
Cave crickets: *Ceuthophilus (Ceuthophilus)* new species
Ceuthophilus (Ceuthophilus) secretus Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Bugs: Hemiptera undetermined
Ground beetles: Carabidae genus and species
Rove beetles: *Belonuchus* sp. (troglophile)
Erichsonius sp. (?accidental)
Eustilicus condei (Jarrige) (troglophile)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)
Flies: Diptera undetermined
Toads: ?*Bufo* sp.
Cliff frog: *Syrrhophus marnocki* Cope (trogloxene)
Rattlesnakes: *Crotalus* sp.

Stevens Ranch Trash Hole Cave (BCS #290)

Area: Culebra Anticline. Quadrangle: LaCoste 7.5'.

Description: This is vertical pit dropping from the bottom of a sinkhole used as a trash pit by the previous owners. Passages lead from the bottom, but no description is available.

Biology: A collection in the cave on 12 June 1993 by James Loftin included the following material:

Terrestrial isopods: Oniscoidea undetermined
?*Brackenridgia* sp. (troglobite)
Spiders: Araneomorphae undetermined

Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Speodesmus sp. (troglobite)
Springtails: Collembola undetermined
Slender entotrophs: Campodeidae genus and species
Subterranean silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Assassin bugs: Reduviidae genus and species (trogloxene)
Ground beetles: ?Tachyini genus and species (troglophile)
Rhadine infernalis (Barr and Lawrence) (troglobite)
Ants: *Labidus coecus* (Latreille) (accidental)
Fire ants: *Solenopsis* (*Solenopsis*) *invicta* Buren (trogloxene)

Three-Fingers Cave (BCS #231)

Area: UTSA. Quadrangle: Helotes 7.5'.

Description: The entrance to the cave is a sloping crawlway about 3 m wide by 1 m high. This opens immediately into an wide passage up to 3 m high that contains old eroded speleothems along the walls. Speleothems and breakdown split the passage into a wide low crawlway over massive breakdown along the right wall and a narrow walking passage along the left wall. These rejoin after about 20 m into a breakdown-floored chamber about 15 m in diameter and up to 4 m high. Pits along the sides of this room drop about 4 m to lower-level crawlways.

Biology: Two javelina and a raccoon were seen in the cave when first explored by James Loftin in 1988. A collection on 22 June 1993 by James Loftin, James Reddell, and Marcelino Reyes included the following material:

Snails: Gastropoda undetermined
Terrestrial isopods: *Metoponorthus* sp. (?troglophile)
?*Brackenridgia* sp. (troglobite)
Scorpions: *Vaejovis ?reddelli* Gertsch and Soleglad (troglophile)
Spiders: Araneomorphae undetermined
Cicurina (*Cicurella*) sp. (troglobite)
?*Neoleptoneta* sp.
Mites: Trombidiidae genus and species (parasite of *Ceuthophilus*)
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Hoplobunus sp. (troglobite)
Centipedes: Lithobiomorpha undetermined
Millipedes: *Cambala speobia* (Chamberlin) (troglobite)
Speodesmus sp. (troglobite)
Springtails: Collembola undetermined
Insects: Insecta undetermined (larvae)
Silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus (Ceuthophilus)* new species (trogloxene)
Ceuthophilus (Ceuthophilus) secretus Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Roaches: Blattaria undetermined
Bark lice: Psocoptera undetermined
Ground beetles: *Rhadine exilis* (Barr and Lawrence) (troglobite)
Rhadine infernalis (Barr and Lawrence) (troglobite)
Comb-clawed beetles: Alleculidae genus and species
Rove beetles: *Belonuchus* sp. (troglophile)
Darkling beetles: Tenebrionidae genus and species
Hymenopterans: Hymenoptera undetermined
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)

Moths: Ditrysia undetermined
Flies: Diptera undetermined
Raccoon: *Procyon lotor* (Linnaeus) (trogloxene)
Collared peccary: *Tayassu tajacu angulata* (Cope) (trogloxene)

The Two Raccoon Cave (BCS #250)

Area: Culebra Anticline. Quadrangle: Lacoste NE 7.5'.

Description: The entrance is a pit 0.7 m long by 0.3 m wide, which offsets slightly and bells to about 1 m in diameter and reaches a depth of 7.2 m. At its base are two short crawlways totaling a length of 8.2 m.

Biology: A collection in the cave on 1 June 1993 by James Loftin, James Reddell, and Marcelino Reyes included the following material:

Snails: Gastropoda undetermined
Terrestrial isopods: Oniscoidea undetermined
Spiders: Araneomorphae undetermined
Mites: Trombidiidae genus and species (parasite of *Ceuthophilus secretus*)
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Millipedes: Parajulidae genus and species (accidental)
Cambala speobia (Chamberlin) (troglobite)
Springtails: Collembola undetermined
Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)
Roaches: Blattaria undetermined
Ground beetles: Carabidae genus and species
Clown beetles: Histeridae genus and species
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)
Moths: Ditrysia undetermined
Raccoon: *Procyon lotor* (Linnaeus) (trogloxene)

What's This, A Cave (BCS #288)

Area: UTSA. Quadrangle: Helotes 7.5' Quadrangle.

Description: The cave is a 6 m long by 0.6 m wide by 0.3 m high dusty, dirt-floored crawlway. There is a 1 m high dome where the passage curves south before becoming too small for exploration.

Biology: Mosquitoes, flies, and epigean spiders were observed in the cave when visited on 1 June 1993 by James Loftin, James Reddell, Marcelino Reyes, and George Veni. The cave was an unexpected discovery and a collecting bottle was not in hand. In the absence of cave-adapted fauna a return trip was deemed unnecessary.

World News Cave (BCS #48)

Area: Government Canyon. Quadrangle: Helotes 7.5'.

Description: The cave was originally filled with rubble. It was excavated in 1964. "A 2 m deep, 2.5 m long, 1 m wide rectangular sinkhole drops into the cave. One small passage goes west 4 m but the main part of the cave heads north as a 7.5 m long canyon passage averaging 2 m wide and 1 to 3 m high. Two holes in the floor lead into two small lower passag4es, the 'Button Collection Room' and the 'Dan Rathered Be Elsewhere Crawl'." (Veni, 1988) (See map, fig. 23, p. 88.)

Biology: .A collection in the cave on 14 July 1993 by James Reddell and Marcelino Reyes included the following material:

Snails: Gastropoda undetermined
Spiders: Araneomorphae undetermined

Mites: Trombidiidae genus and species (parasite of *Ceuthophilus secretus*)
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Springtails: Collembola undetermined
Silverfish: Thysanura undetermined
Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)

Wurzbach Bat Cave (BCS #84)

Area: Culebra Anticline. Quadrangle: Lacoste NE 7.5'.

Description: "Two of the five entrances opening into Wurzbach Bat Cave are within a collapse sinkhole. The southern of the two is discussed later. The passage from the northern entrance is 67 m long, not including a short cut-around. It enlarges from 1.3 m high by 2 m wide to 4.5 m high by 5 m wide, where it joins the Main Room, which is about 12 m in diameter and up to 6 m high, the highest point being at the 0.4 m diameter skylight entrance. In the southeast corner is the cave's main entrance, a 1 m diameter by 3 m deep hole. From the northern end of the Main Room is a narrow, 34 m long crawlway to a small sealed sinkhole entrance. West from the Main Room a passage 3 m higha nd wide goes 15 m, then turns northeast for 14 m to a left-hand hairpin turn. Some minor upper level passages are present there, but the main corridor extends to the southwest. Beginning at 1 m high and soon reaching heights of 5 m, this 1.4 m wide Linear Passage is 116 m long. It continues beyond the southern end of the 'linear' portion by going west 8 m, south 20 m (where it lowers to less than 1 m high), west 3 m, southwest 5 m, and northwest 4 m to its end. Approximately mid-way down the initial 116 m of the Linear Passage, a small crawlway high in its east wall connects to the 1.3 m high by 3 m wide southern collapse sinkhole entrance mentioned previously. Opposite the crawl, high in the west wall, is a short passage to some vertical shafts. They are also accessible via snug crawlway at the deepest part of the Linear Passage (this spot is below the two passages high in the walls). The snug crawl is the outlet for water draining into the cave. Beyond the crawl the watercourse skirts the base of the shafts and goes down Hourglass Pit. Only 2.7 m deep, this tight drop is the most challenging spot in the cave. The base of Hourglass Pit is the beginning of the Death Crawl, which averages 0.5 m high and wide, commonly with an apex-up triangular cross-section. Surveyed and explored for 128 m to the northeast, the end of the Death Crawl has not been reached." (Veni, 1988) (See map, fig. 24, p. 89.) With development of the area the cave not only became popular for parties, but also for devil-worship ceremonies and drug use. Gates on the cave were repeatedly destroyed. Bexar Grotto members regularly assisted with the clean-up of trash, which ranged from beer bottles to hypodermic needles. In 1992 the cave was re-gated by James Loftin. Concrete pillars and footings were placed in the northern sinkhole entrance. The southern sinkhole entrance was blocked with rocks and concrete, although a route for bats, and air and water flow was preserved. Concrete footings were placed in the main entrance and a steel plate was built as the door to the cave.

Biology: Collections have been made in the cave on 30 January 1969 by Roger V. Bartholomew; on 14 April 1981 by George Veni and Randy M. Waters; on 4-5 January 1984 by Scott Harden; on 30 January 1988 by Andy G. Grubbs; on 22 May 1993 by James Loftin, James Reddell and Marcelino Reyes; and on 25 June 1993 by David Bowles, Andy Grubbs, James Reddell, Marcelino Reyes, and Ruth Stanford. On the 22 May 1993 collection date leaf litter was returned to the laboratory for Berlese funnel extraction. The following is a fauna list:

Snails: Gastropoda undetermined
Earthworms: Haplotaxida undetermined
Terrestrial isopods: ?*Brackenridgia* sp. (troglobite)
Spiders: Araneomorphae undetermined
Cicurina (Cicurusta) Varians Gertsch and Mulaik (troglophile)
Meioneta sp. (troglophile)
Eidmannella rostrata Gertsch (troglobite)
Modisimus sp. (troglophile)
Achaearanea porteri Banks (troglophile)

Pseudoscorpions: *Tyrannochthonius* ?new species (?troglobite)
Hard ticks: *Amblyomma americanum* (Linnaeus) (parasite)
Mites: Acarina undetermined
Trombidiidae genus and species (praasite of *Ceuthophilus cunicularis*)
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Hoplobunus madlae Goodnight and Goodnight (troglobite)
Centipedes: Geophilomorpha undetermined
Lithobiomorpha undetermined
Millipedes: *Abacion texense* (Loomis) (accidental)
Oxidus gracilis (Koch) (troglophile)
Symphylans: Symphyla undetermined
Springtails: Collembola undetermined
Slender springtails: *Pseudosinella violenta* (Folsom) (troglophile)
Insects: Insecta undetermined (larvae)
Silverfish: Thysanura undetermined
Cave crickets: *Ceuthophilus (Ceuthophilus)* new species (trogloxene)
Ceuthophilus (Ceuthophilus) secretus Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Ground beetles: Carabidae genus and species
Calasoma scrutator Fabricius (accidental)
Chlaenius sp. (accidental)
Rhadine infernalis (Barr and Lawrence) (troglobite)
Beetles: Polyphaga undetermined
Rove beetles: Aleocharinae genus and species
Orus (Leucorus) rubens Casey (troglophile)
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)
Flies: Diptera undetermined
Rattlesnakes: *Crotalus* sp. (trogloxene)
Bats: Chiroptera undetermined

Young Cave No. 1 (BCS #140)

Area: Helotes. Quadrangle: Van Raub 7.5'.

Description: "This cave is a single large collapse chamber with variations in size an shape that are a function of collapse type and extent. The 1.8 m wide by 0.4 m high entrance opens into an irregular room 9 m in diameter and up to 2 m high. Sloping down to the north is a well decorated second room averaging 11 m in diameter and 2 m high. Minor passages between the breakdown and cave walls do nt lead into anything significant. Two pits, 1.4 and 1.2 m deep, have been dug into the floor of this room; their purpose is not known. South of the entrance is a crawlway averaging 0.4 m high by 4 m wide; it extends 20 m to a small 6 m diameter by 1.3 m high formation room. Beyond the stalactites and columns the cave drops almost 2 m out of the decorated collapse room into a small crescent-shaped terminal room." (Veni, 1988). (See map, fig. 25, p. 90.) In 1992, James and Scott Loftin dug open a small passage in the southeastern corner of the cave's southernmost room. The passage parallels the main cave, heading northeast for about 25 m and increasing the cave's depth by about 6 m.

Biology: Collections were made in the cave on 6 August 1983 by Joe Ivy and George Veni and on 6 September 1993 by James Reddell and Marcelino Reyes. The following is a fauna list:

Snails: Gastropoda undetermined
Helicina orbiculata (Say) (accidental)
Helicodiscus eigenmanni Pilsbry (troglophile)
Terrestrial isopods: Oniscoidea undetermined
?*Brackenridgia* sp. (troglobite)
Scorpions: *Vaejovis reddelli* Gertsch and Soleglad (troglophile)
Spiders: Araneomorphae undetermined

Cicurina (Cicurella) sp. (troglobite)
Gaucelmus augustinus Keyserling (troglophile)
Achaearanea porteri (Banks) (troglophile)
Pseudoscorpions: Pseudoscorpionida undetermined (2 species, ?troglobites)
Mites: Acarina undetermined
Harvestmen: *Leiobunum townsendii* Weed (trogloxene)
Hoplobunus sp. (troglobite)
Texella sp. 1 (troglobite)
Texella sp. 2 (?troglobite)
Millipedes: Siphonophoridae genus and species (?troglobite)
Speodesmus sp. (troglobite)
Springtails: Collembola undetermined
Slender entotrophs: Campodeidae genus and species
Subterranean silverfish: Probably *Texoreddellia texensis* (Ulrich) (troglobite)
Cave crickets: *Ceuthophilus (Ceuthophilus) secretus* Scudder (trogloxene)
Ceuthophilus (Geotettix) cunicularis Hubbell (trogloxene)
Assassin bugs: *Triatoma gerstaeckeri* (Stal) (trogloxene)
Ground beetles: *Rhadine exilis* Barr and Lawrence (troglobite)
Beetles: Polyphaga undetermined
Hymenopterans: Hymenoptera undetermined
Fire ants: *Solenopsis (Solenopsis) invicta* Buren (trogloxene)
Moths: Ditrysia undetermined (SIGHT RECORD)
Flies: Diptera undetermined (SIGHT RECORD)
Mosquitoes: Culicidae genus and species (SIGHT RECORD)
Cliff frog: *Syrrhophus marnocki* Cope (trogloxene)

Fig. 1

166
10
43
226
46
99
34,35
31
48
47,65,
288,289
140,141
93
57,230,
231,261
243,284
9
196
21
52
70
7
56
213
84,143,147
249,250,262,265,
266,268,269,270,
273,290,291

BEXAR COUNTY TEXAS 15

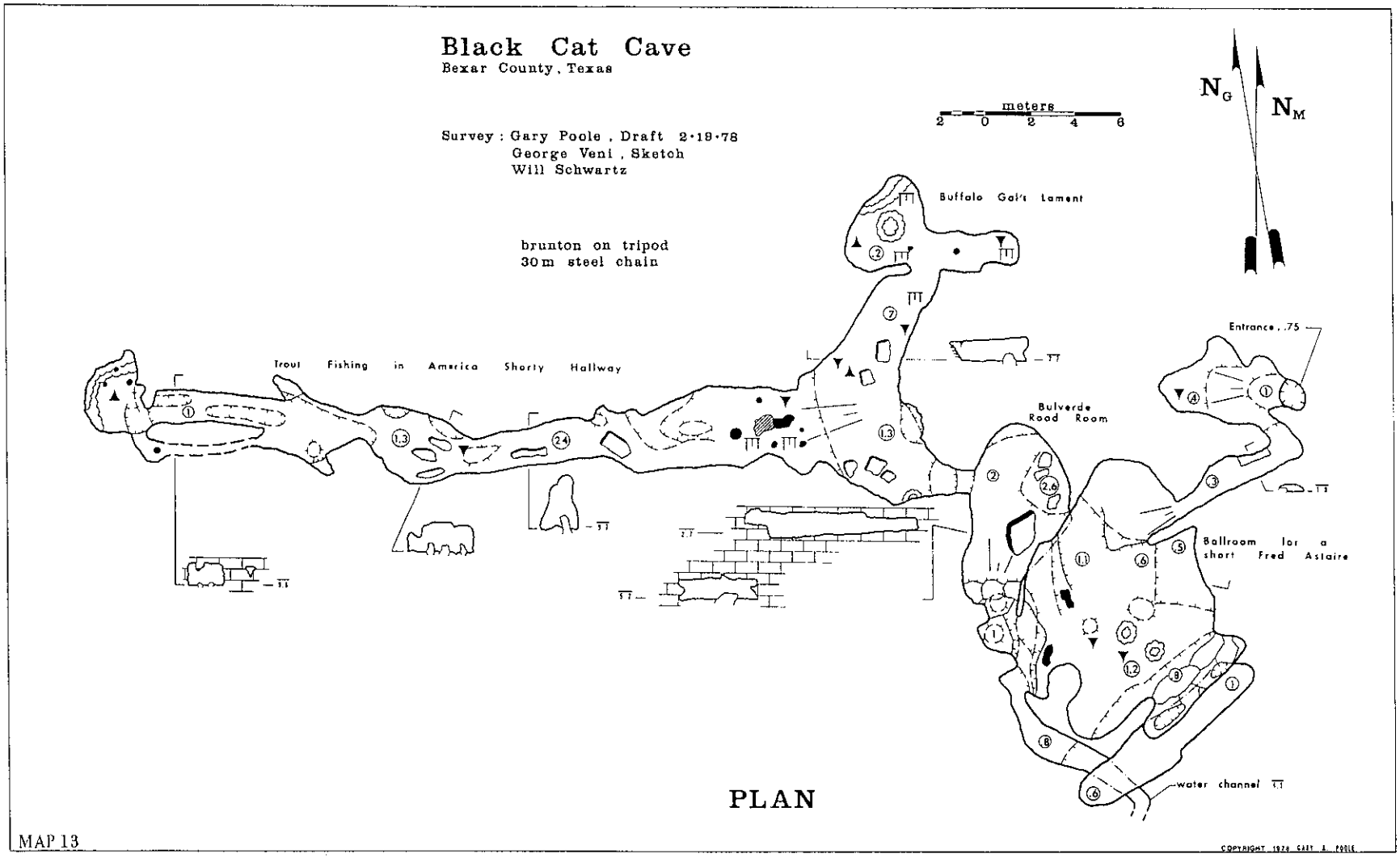

Black Cat Cave
Bexar County, Texas
Survey : Gary Poole , Draft 2·19·78
George Veni , Sketch
Will Schwartz
brunton on tripod
30m steel chain
meters
2 0 2 4 6
N G
N M
Buffalo Gal't Lament
Trout Fishing in America Shorty Hallway
Bulverde Road Room
Entrance, .75
Ballroom for a short Fred Astaire
water channel
PLAN
MAP 13
COPYRIGHT 1978 GARY A. POOLE

Fig. 2

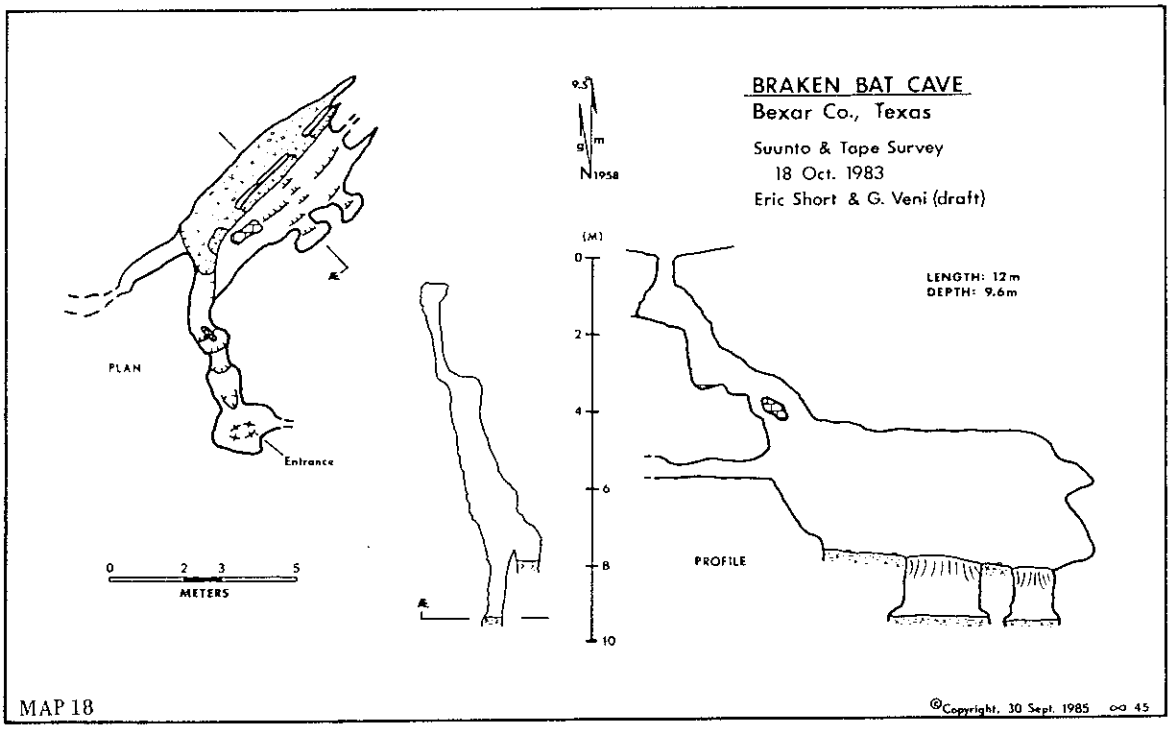

BRAKEN BAT CAVE
Bexar Co., Texas
Suunto & Tape Survey
18 Oct. 1983
Eric Short & G. Veni (draft)
N195a
PLAN
Entrance
0 2 3 5
METERS
(M)
0
2
4
6
8
10
PROFILE
LENGTH: 12 m
DEPTH: 9.6m
MAP 18
©Copyright, 30 Sept. 1985

Fig. 3

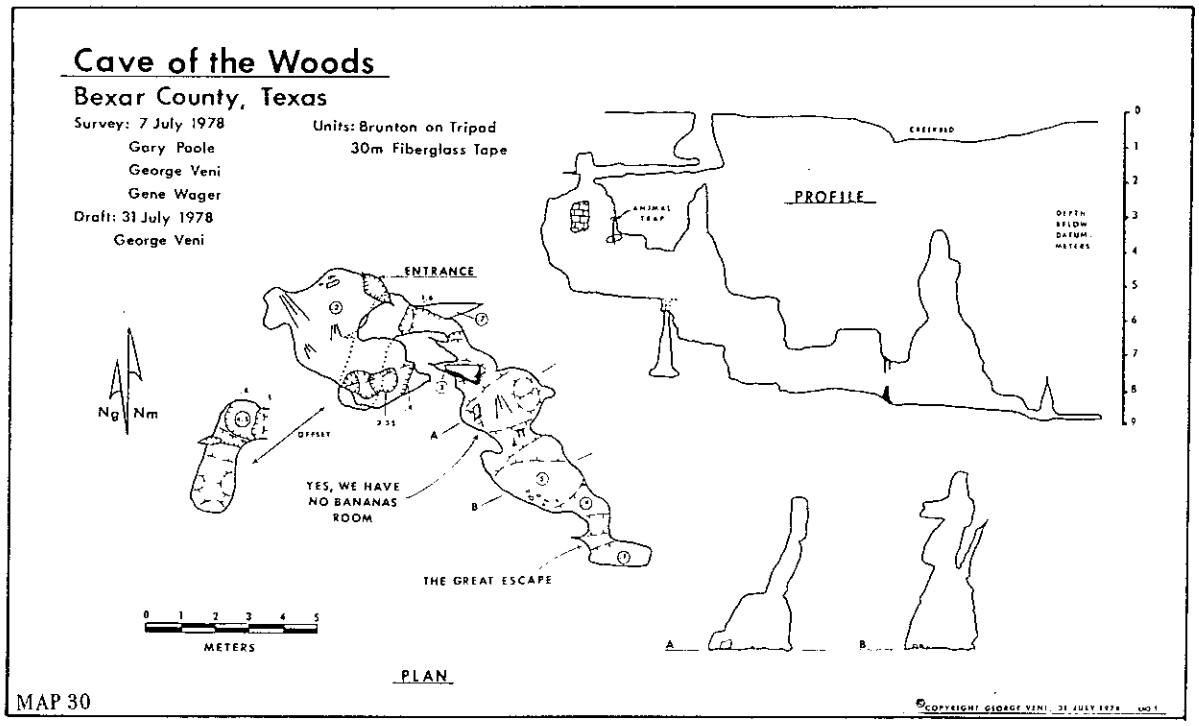

Cave of the Woods
Bexar County, Texas
Survey: 7 July 1978
Gary Poole
George Veni
Gene Wager
Draft: 31 July 1978
George Veni
Units: Brunton on Tripod
30m Fiberglass Tape
ENTRANCE
PROFILE
ANIMAL TRAP
DEPTH BELOW DATUM METERS
Ng Nm
OFFSET
YES, WE HAVE NO BANANAS ROOM
THE GREAT ESCAPE
A
B
0 1 2 3 4 5
METERS
PLAN
MAP 30
©COPYRIGHT GEORGE VENI 31 JULY 1978

Fig. 4

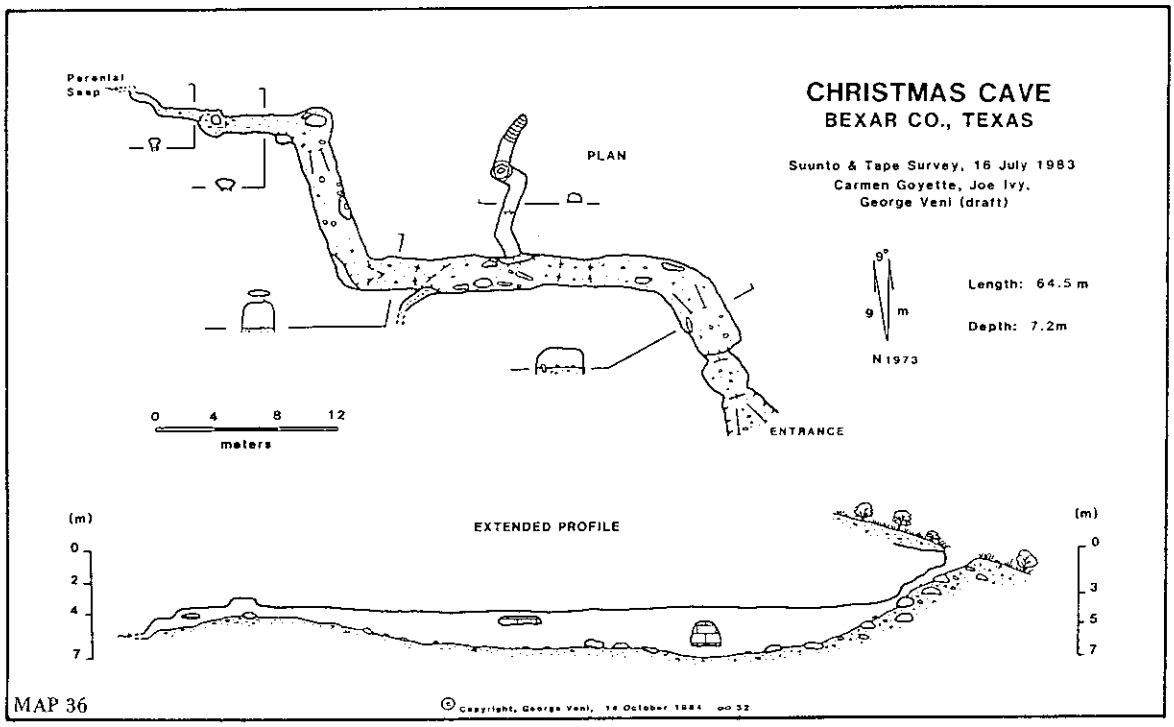

Perenial Seep
PLAN
CHRISTMAS CAVE
BEXAR CO., TEXAS
Suunto & Tape Survey, 16 July 1983
Carmen Goyette, Joe Ivy,
George Veni (draft)
Length: 64.5 m
Depth: 7.2m
N 1973
0 4 8 12
meters
ENTRANCE
EXTENDED PROFILE
(m)
0
2
4
7
(m)
0
3
5
7
MAP 36
© Copyright, George Veni, 16 October 1984

Fig. 5

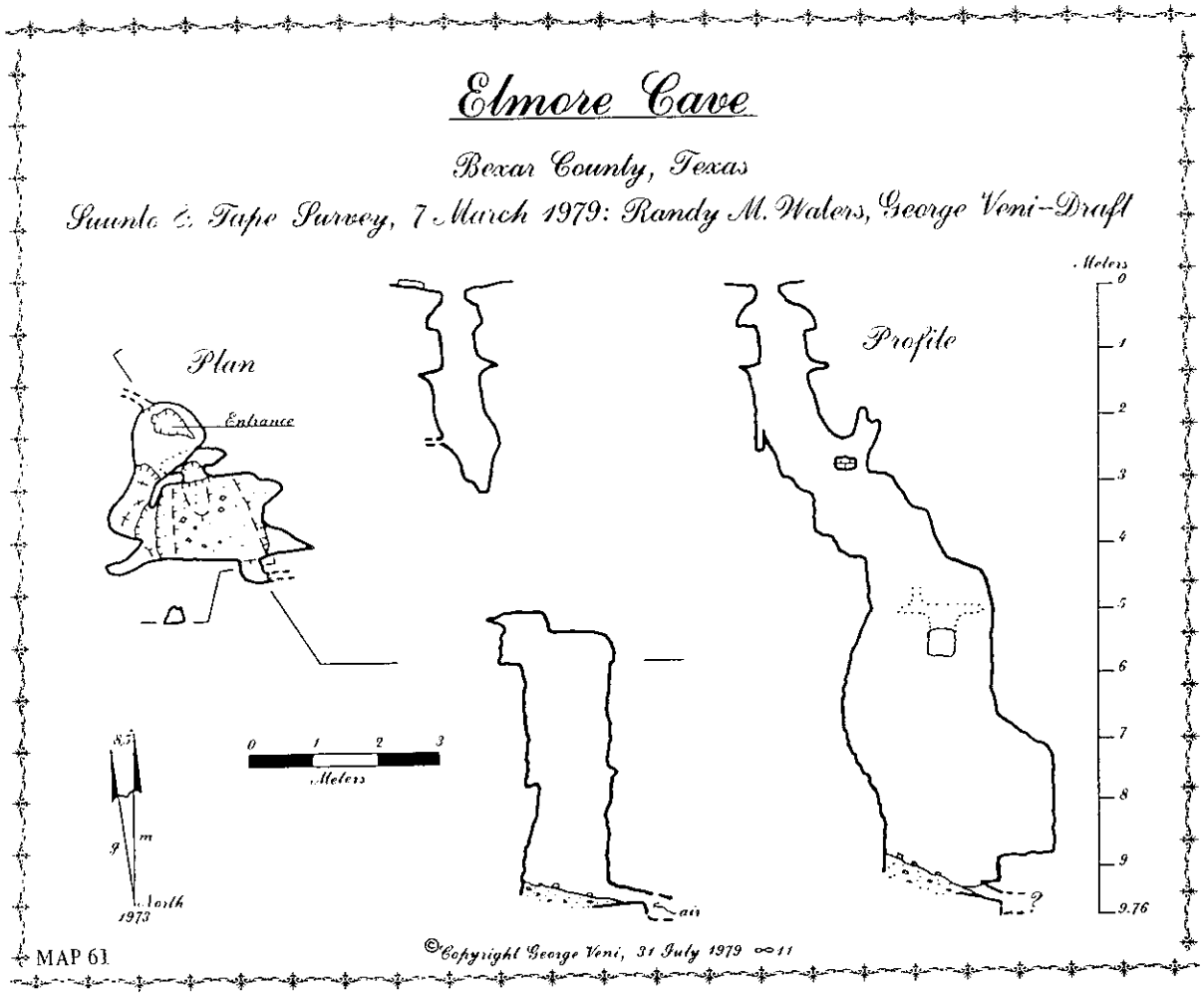
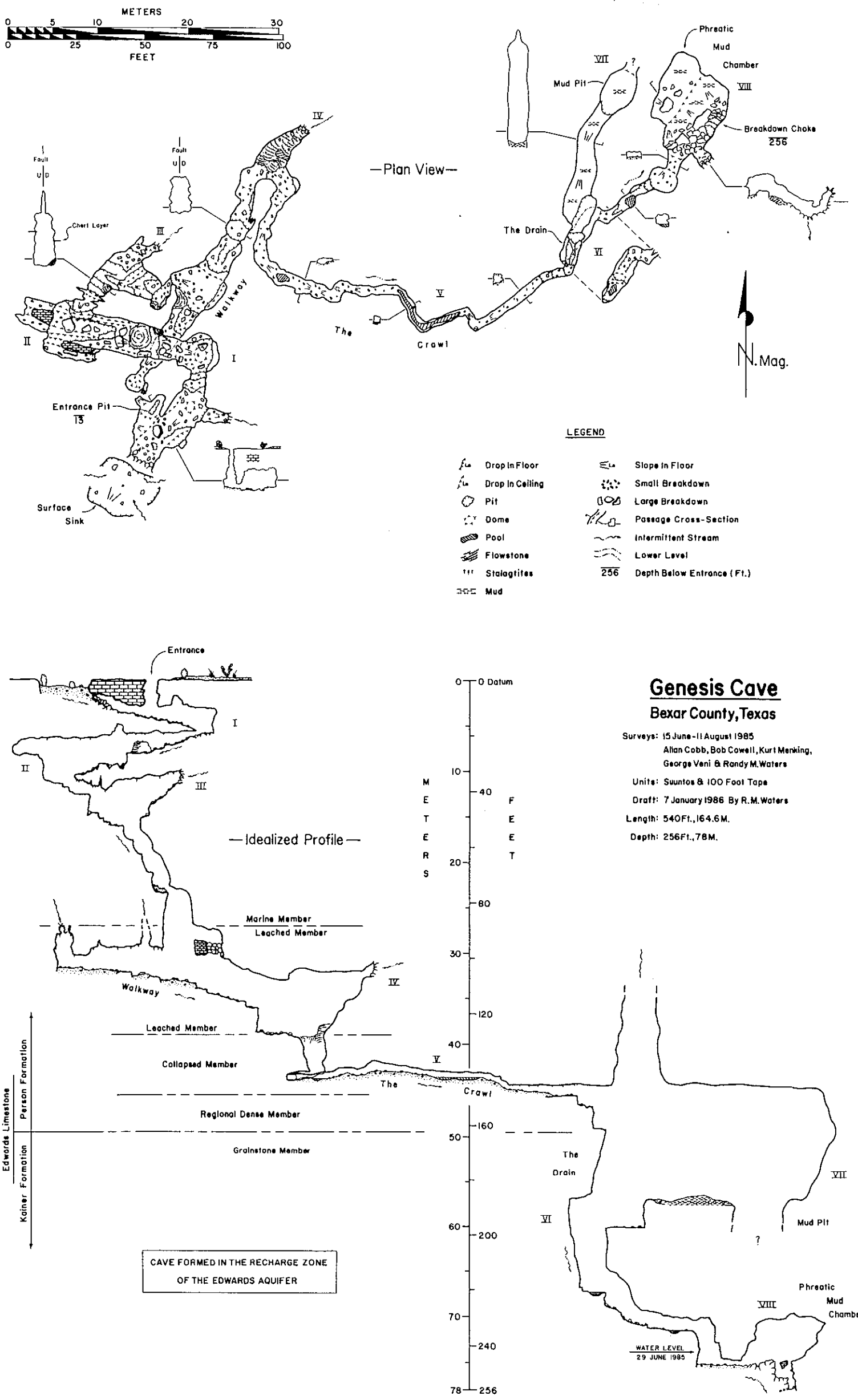

Elmore Cave
Bexar County, Texas
Suunto & Tape Survey, 7 March 1979: Randy M. Waters, George Veni–Draft
Plan
Entrance
Profile
Meters
0
1
2
3
4
5
6
7
8
9
9.76
0 1 2 3
Meters
North
1973
MAP 61
©Copyright George Veni, 31 July 1979 ∞11

Fig. 6



Genesis Cave

Bexar County, Texas

Surveys: 15 June-11 August 1985
Allan Cobb, Bob Cowell, Kurt Menking, George Veni & Randy M. Waters

Units: Suuntos & 100 Foot Tape

Draft: 7 January 1986 By R.M. Waters

Length: 540Ft., 164.6M.

Depth: 256Ft., 78M.

Texas Speleological Association

MAP 72

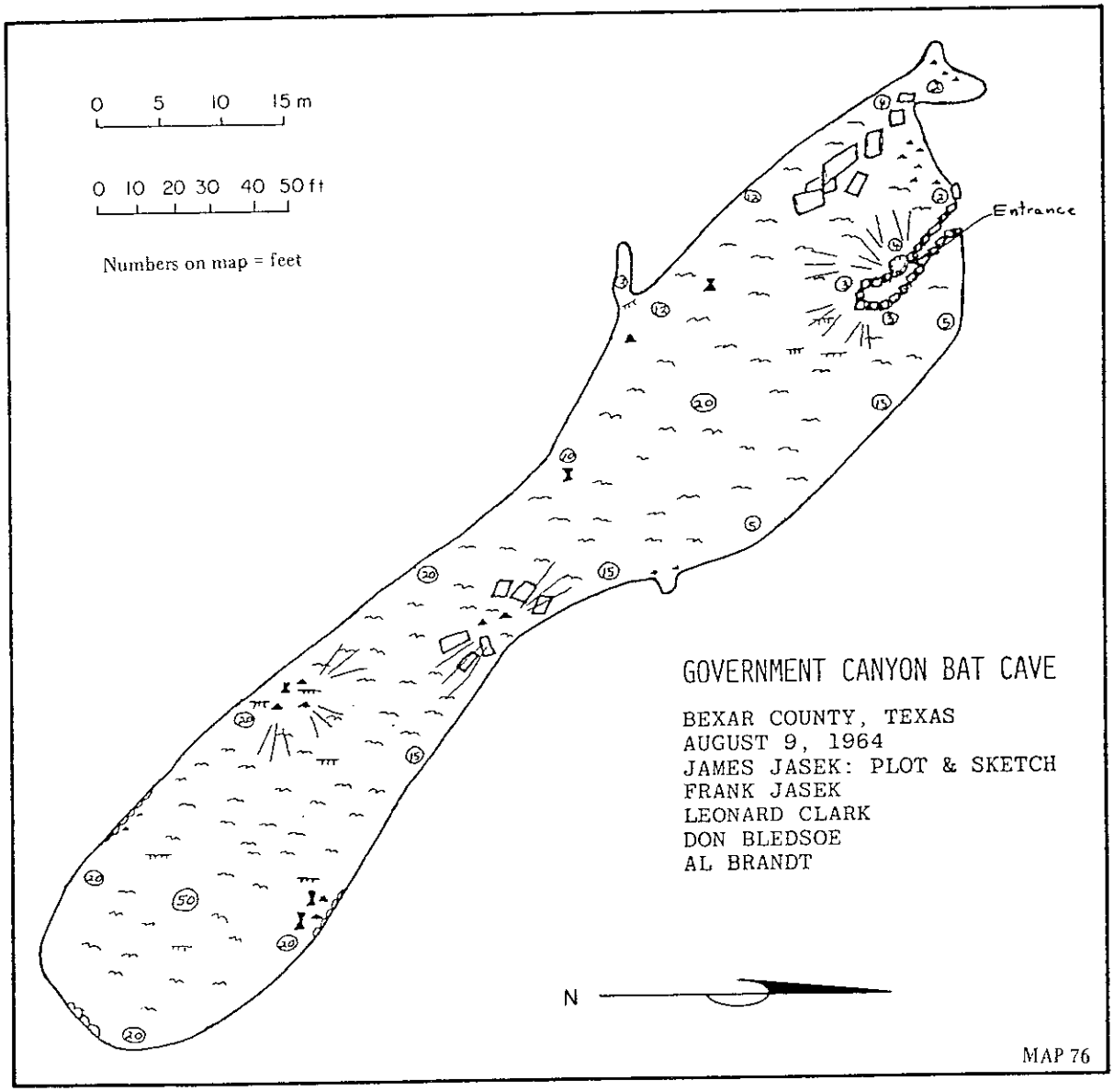

0 5 10 15 m
0 10 20 30 40 50 ft
Numbers on map = feet
Entrance
GOVERNMENT CANYON BAT CAVE
BEXAR COUNTY, TEXAS
AUGUST 9, 1964
JAMES JASEK: PLOT & SKETCH
FRANK JASEK
LEONARD CLARK
DON BLEDSOE
AL BRANDT
N
MAP 76

Fig. 8

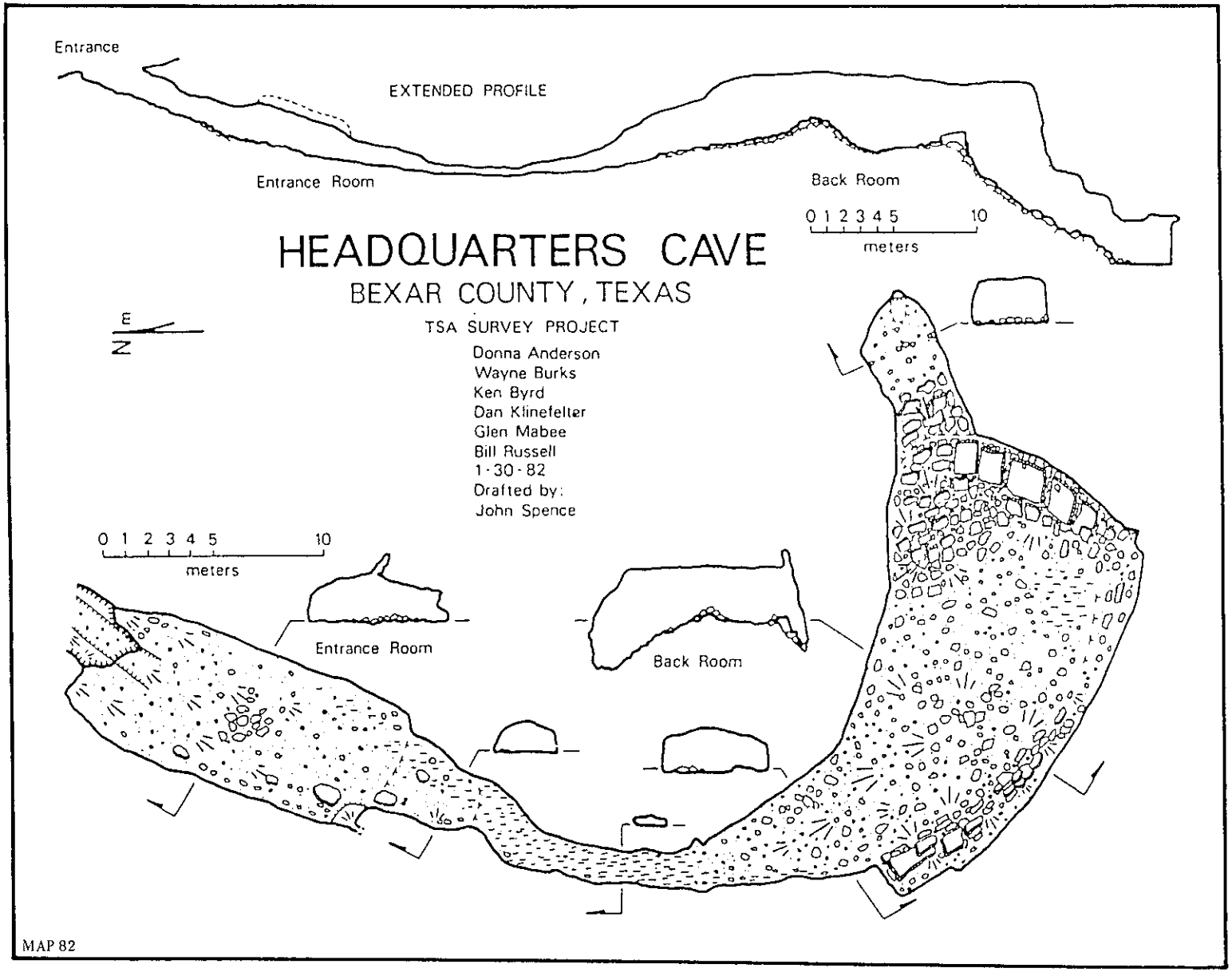

Entrance
EXTENDED PROFILE
Entrance Room
Back Room
0 1 2 3 4 5 10
meters
HEADQUARTERS CAVE
BEXAR COUNTY, TEXAS
TSA SURVEY PROJECT
Donna Anderson
Wayne Burks
Ken Byrd
Dan Klinefelter
Glen Mabee
Bill Russell
1-30-82
Drafted by:
John Spence
E
N
0 1 2 3 4 5 10
meters
Entrance Room
Back Room
MAP 82

Fig. 9

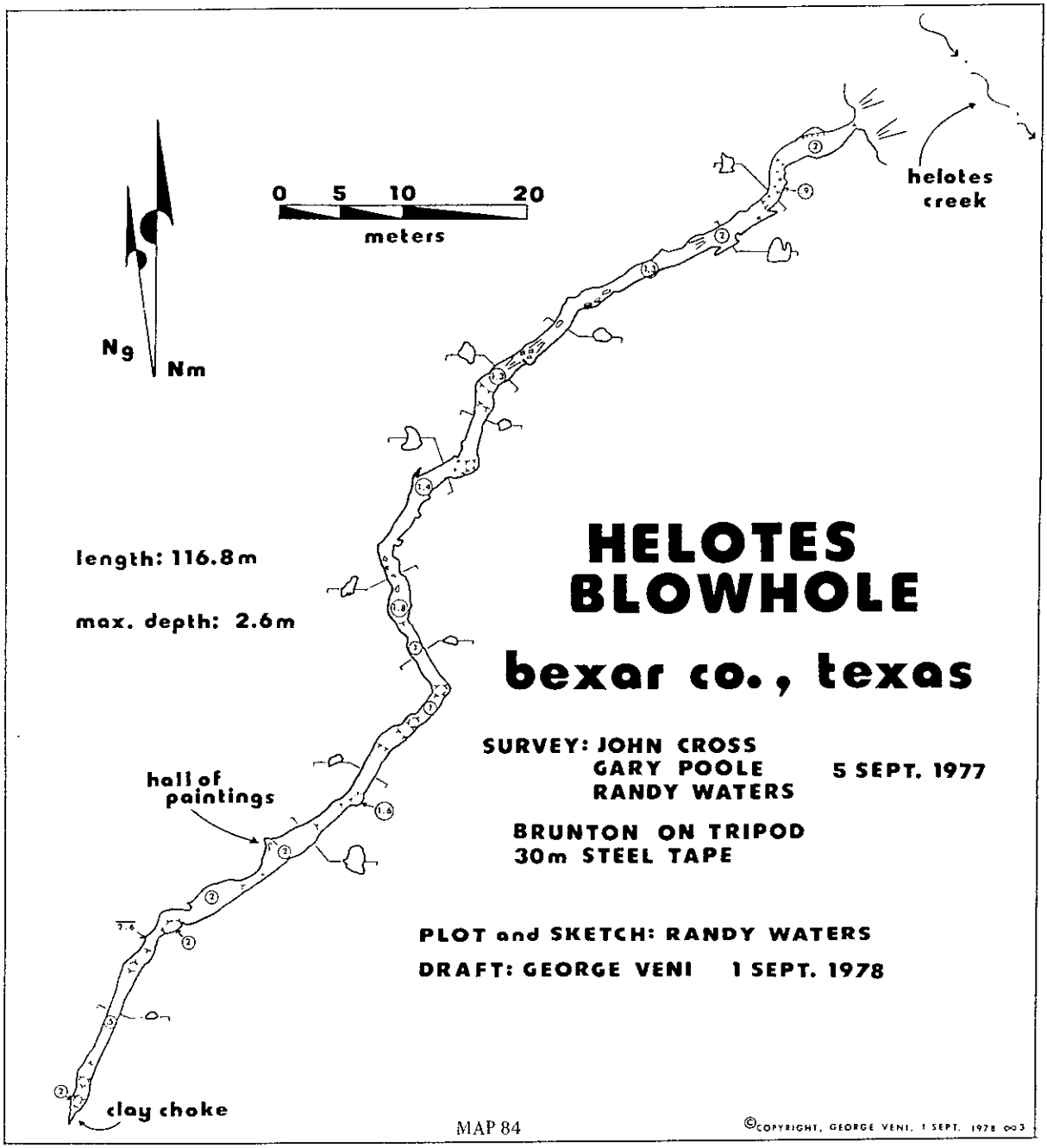

0 5 10 20
meters
Ng
Nm
helotes creek
length: 116.8m
max. depth: 2.6m
HELOTES BLOWHOLE
bexar co., texas
SURVEY: JOHN CROSS
GARY POOLE
RANDY WATERS
5 SEPT. 1977
BRUNTON ON TRIPOD
30m STEEL TAPE
PLOT and SKETCH: RANDY WATERS
DRAFT: GEORGE VENI 1 SEPT. 1978
hall of paintings
clay choke
MAP 84
©COPYRIGHT, GEORGE VENI, 1 SEPT. 1978

Fig. 10

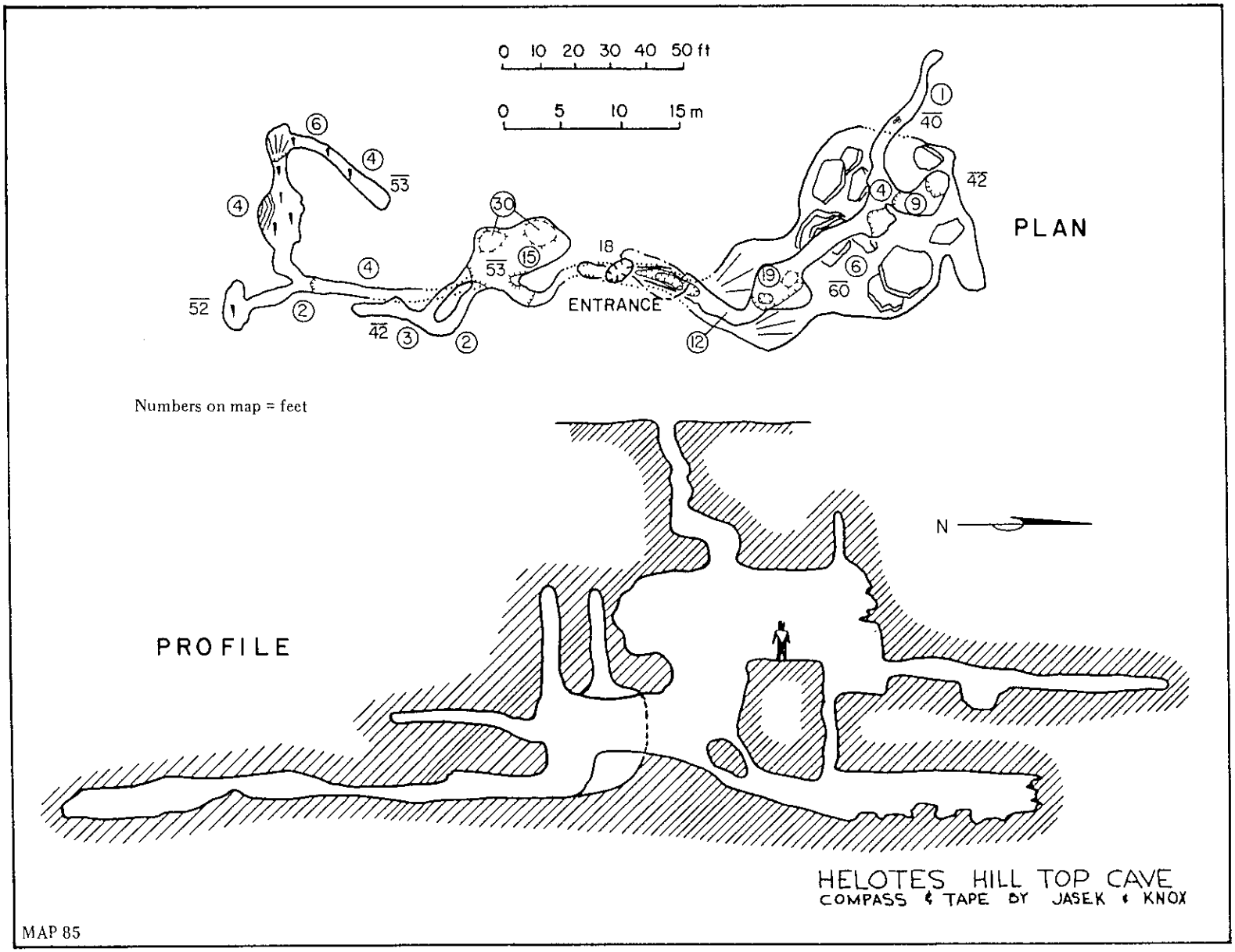

0 10 20 30 40 50 ft
0 5 10 15 m
PLAN
ENTRANCE
Numbers on map = feet
PROFILE
N
HELOTES HILL TOP CAVE
COMPASS & TAPE BY JASEK & KNOX
MAP 85

Fig. 11

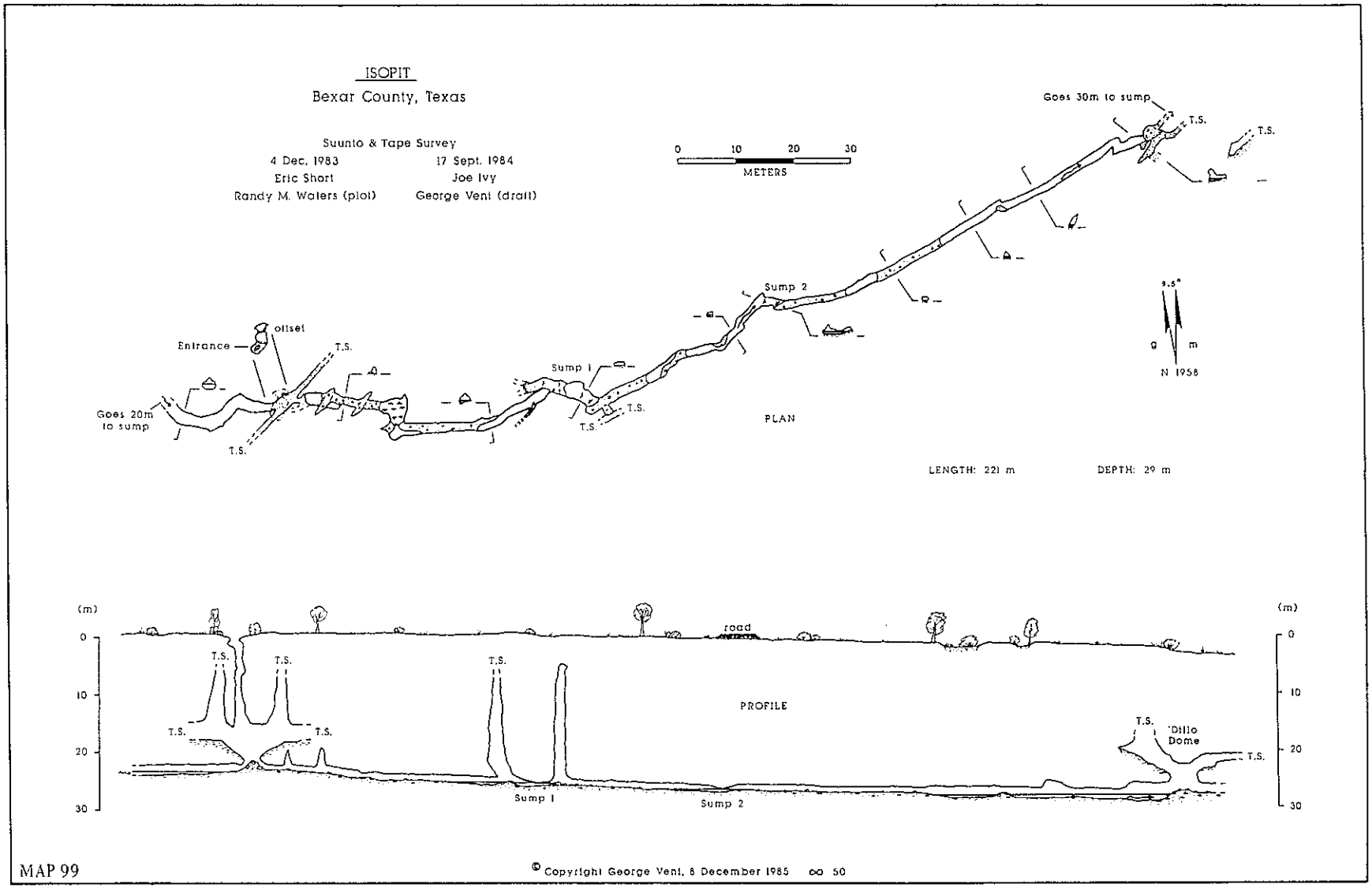

ISOPIT
Bexar County, Texas
Suunto & Tape Survey
4 Dec. 1983
Eric Short
Randy M. Waters (plot)
17 Sept. 1984
Joe Ivy
George Veni (draft)
0 10 20 30
METERS
Goes 30m to sump
T.S.
T.S.
Sump 2
offset
Entrance
T.S.
Sump 1
Goes 20m to sump
T.S.
T.S.
T.S.
PLAN
9.5°
g m
N 1958
LENGTH: 221 m
DEPTH: 29 m
(m)
0
10
20
30
road
T.S.
T.S.
T.S.
T.S.
T.S.
PROFILE
T.S.
Dillo Dome
T.S.
Sump 1
Sump 2
(m)
0
10
20
30
MAP 99
© Copyright George Veni, 8 December 1985 ∞ 50

Fig. 12

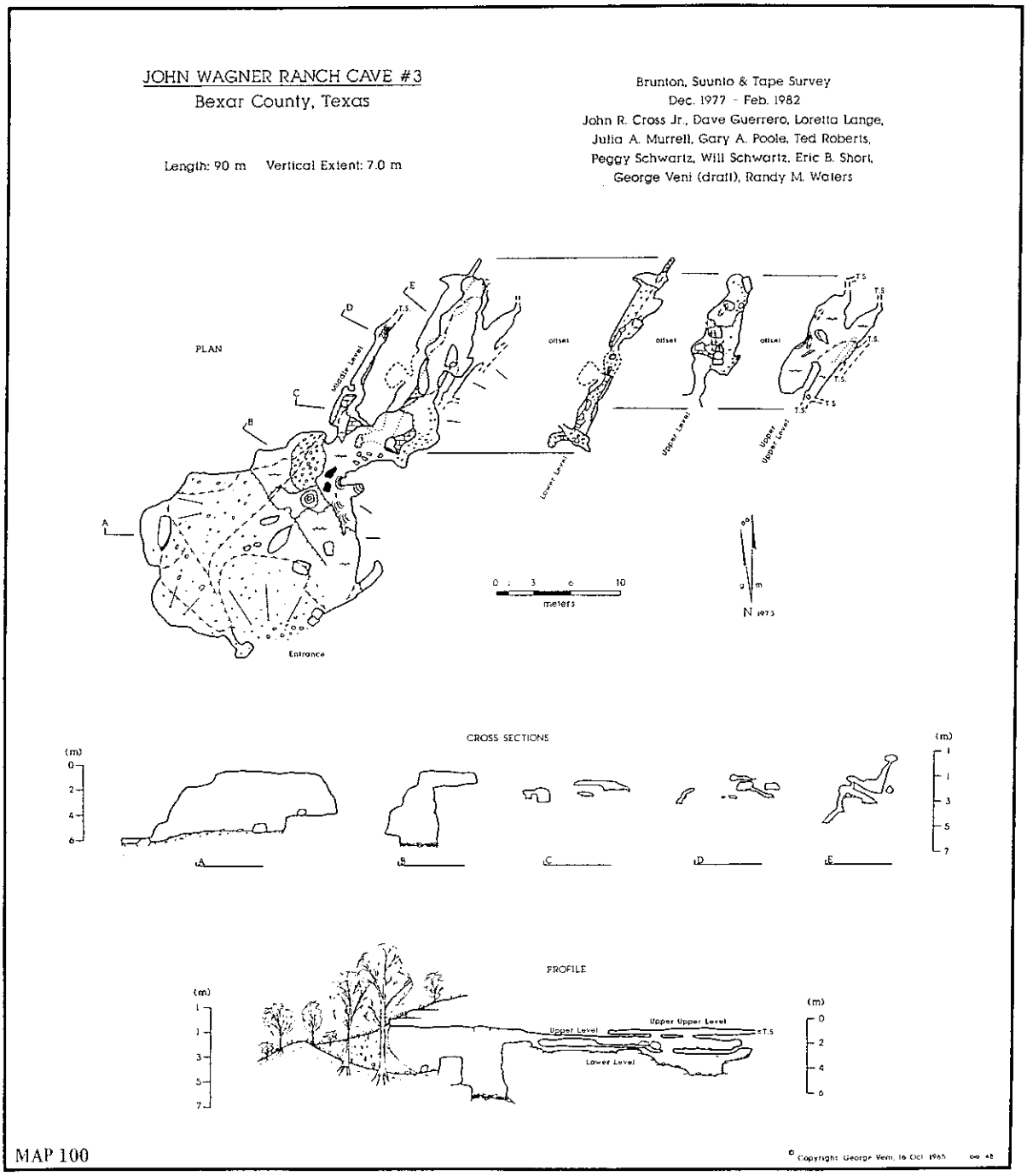

JOHN WAGNER RANCH CAVE #3
Bexar County, Texas
Length: 90 m Vertical Extent: 7.0 m
Brunton, Suunto & Tape Survey
Dec. 1977 - Feb. 1982
John R. Cross Jr., Dave Guerrero, Loretta Lange,
Julia A. Murrell, Gary A. Poole, Ted Roberts,
Peggy Schwartz, Will Schwartz, Eric B. Short,
George Veni (draft), Randy M. Waters
PLAN
Middle Level
Lower Level
Upper Level
Upper Upper Level
offset
Entrance
meters
N
CROSS SECTIONS
PROFILE
Upper Level
Upper Upper Level
Lower Level
MAP 100

Fig. 13

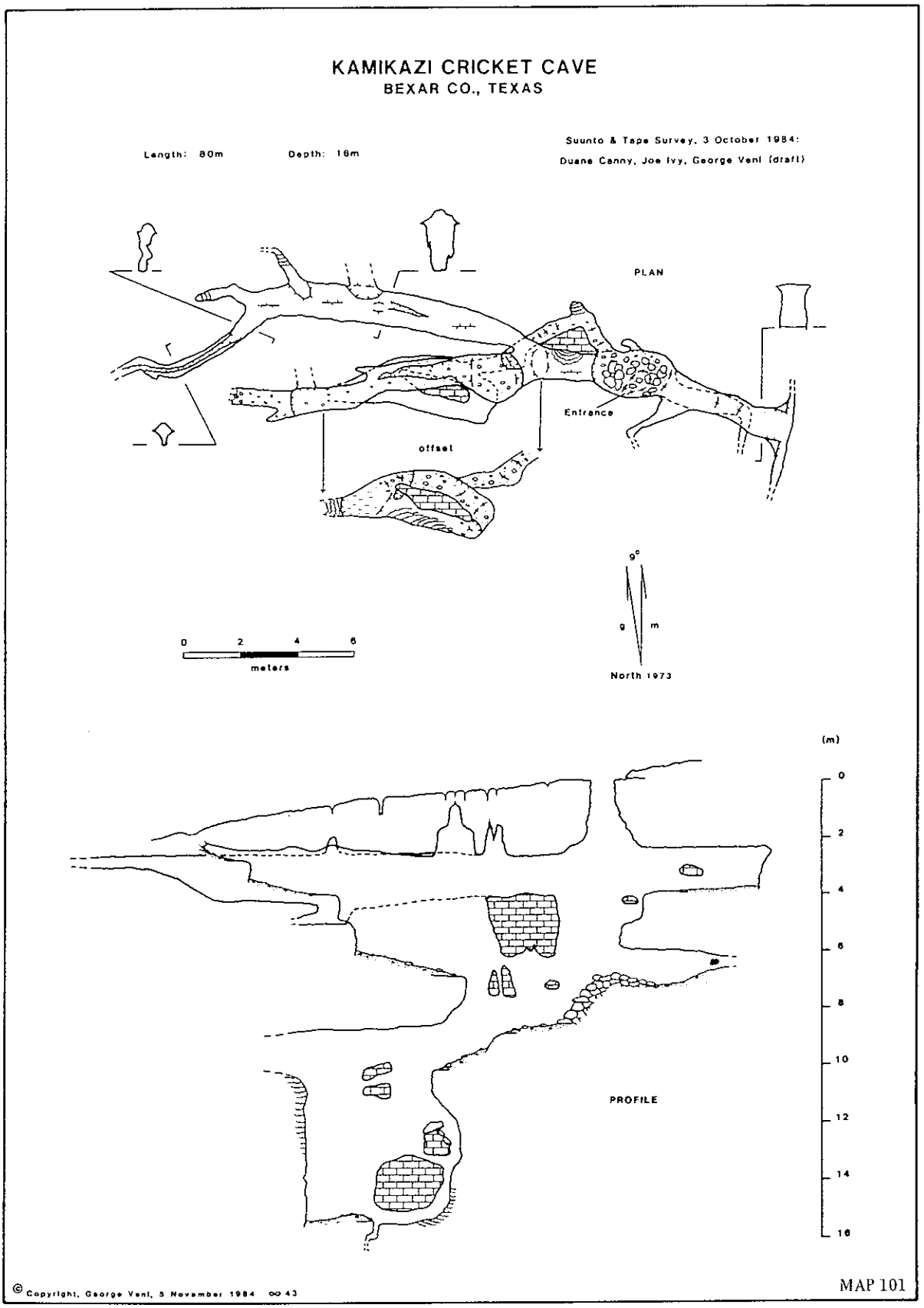
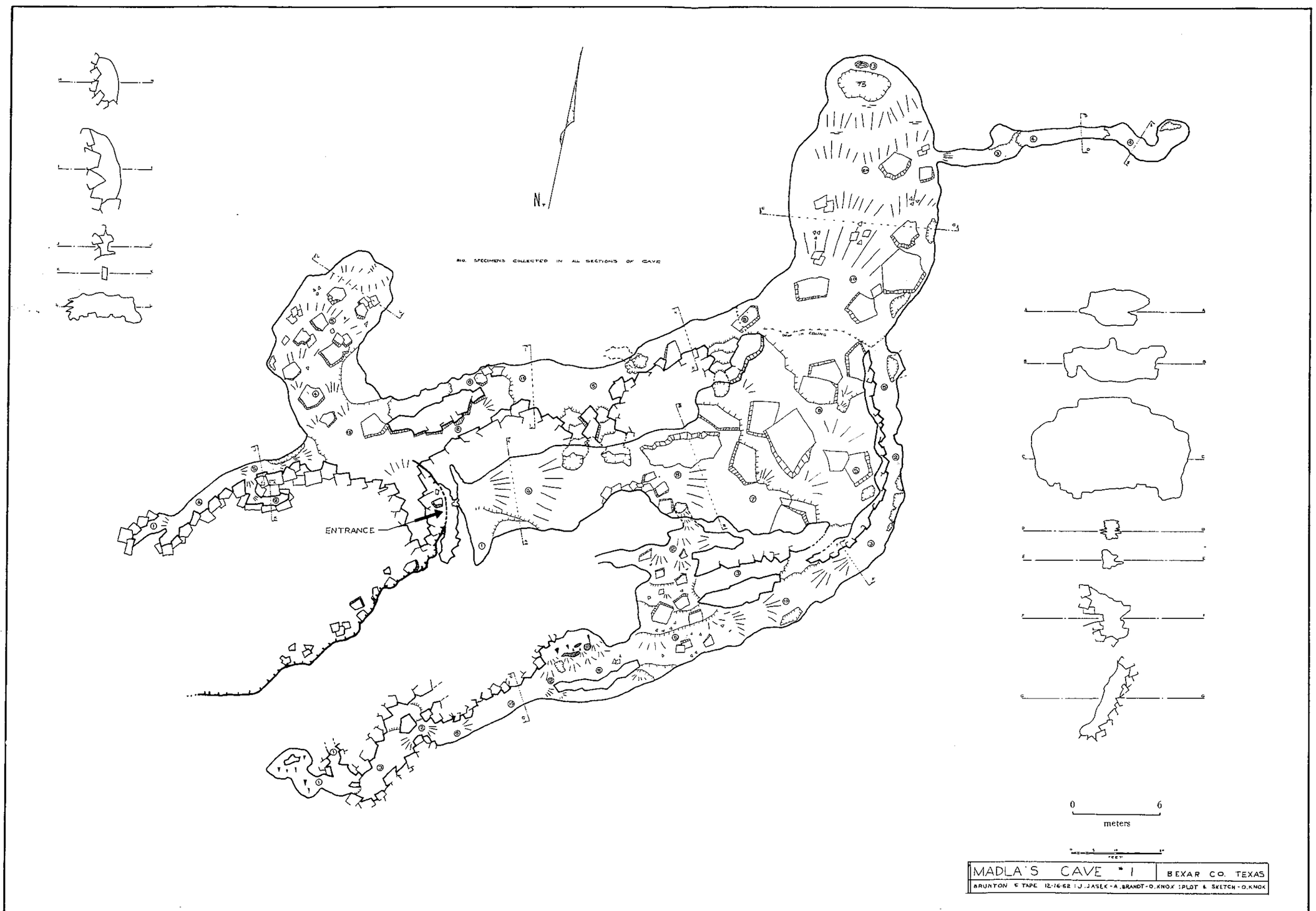

KAMIKAZI CRICKET CAVE
BEXAR CO., TEXAS
Length: 80m
Depth: 16m
Suunto & Tape Survey, 3 October 1984:
Duane Canny, Joe Ivy, George Veni (draft)
PLAN
Entrance
offset
0 2 4 6
meters
9°
g
m
North 1973
(m)
0
2
4
6
8
10
12
14
16
PROFILE
© Copyright, George Veni, 5 November 1984 00 43
MAP 101

Fig. 14



MADLA'S CAVE # 1 | BEXAR CO. TEXAS

BRUNTON & TAPE 12-16-62 : J. JASEK - A. BRANDT - O. KNOX : PLOT & SKETCH - O. KNOX

MAP 106

Numbers on map = feet

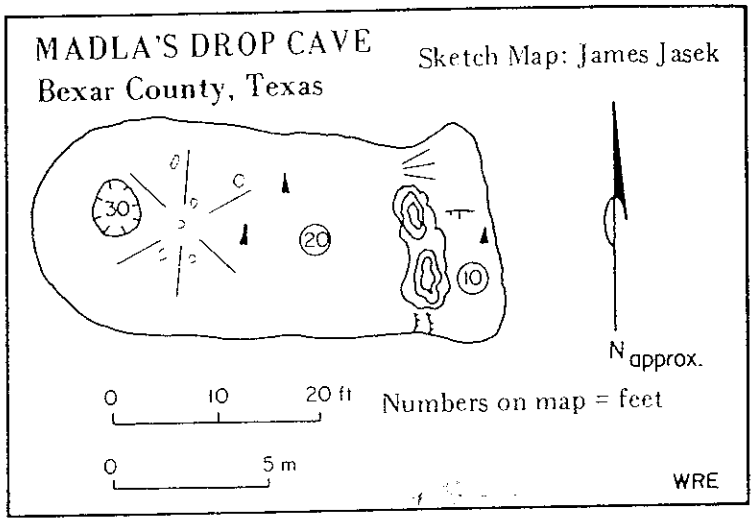

MADLA'S DROP CAVE
Bexar County, Texas
Sketch Map: James Jasek
30
20
10
N approx.
0 10 20 ft
Numbers on map = feet
0 5 m
WRE

Fig. 16

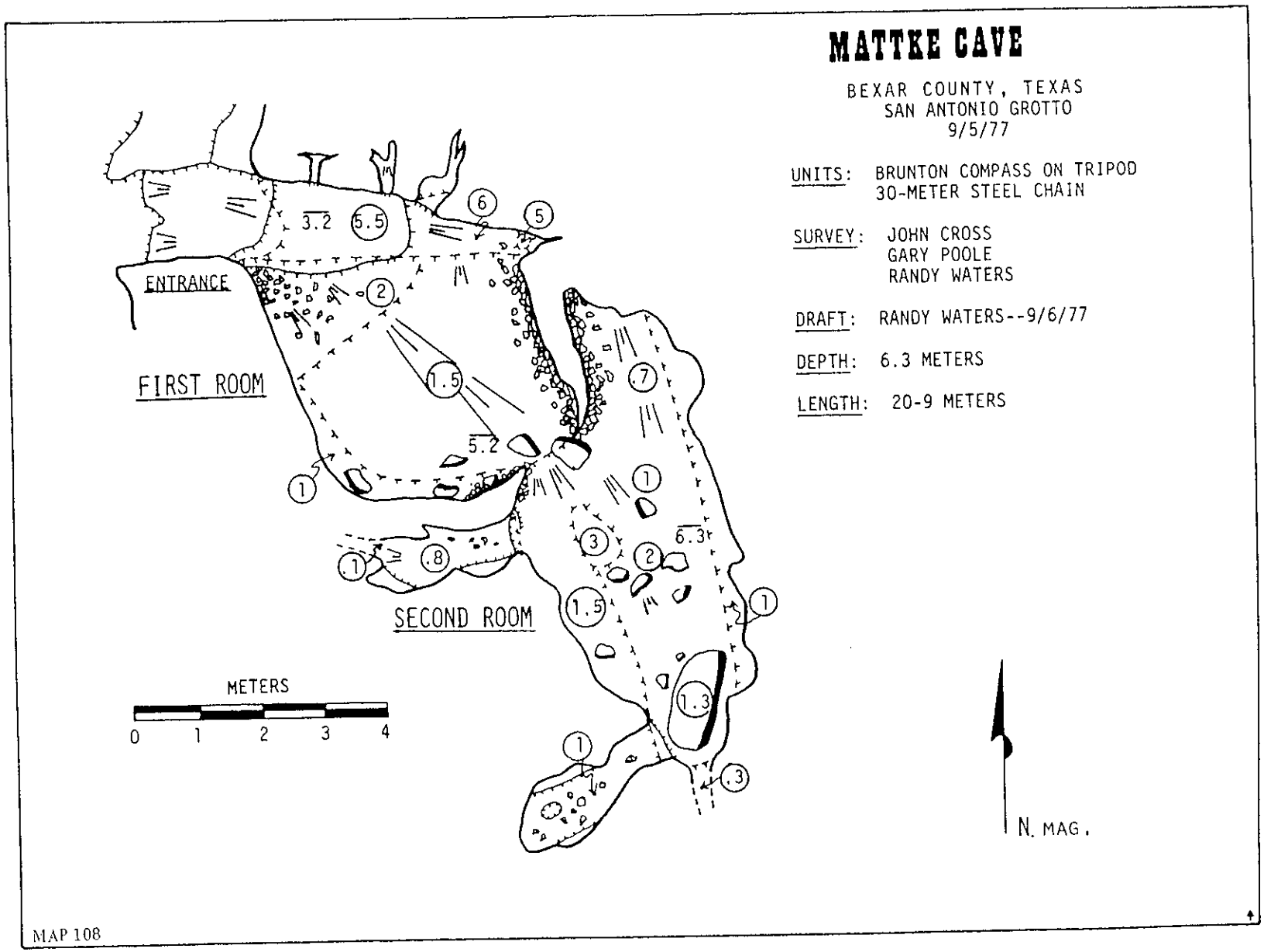

MATTKE CAVE
BEXAR COUNTY, TEXAS
SAN ANTONIO GROTTO
9/5/77
UNITS: BRUNTON COMPASS ON TRIPOD
30-METER STEEL CHAIN
SURVEY: JOHN CROSS
GARY POOLE
RANDY WATERS
DRAFT: RANDY WATERS--9/6/77
DEPTH: 6.3 METERS
LENGTH: 20-9 METERS
ENTRANCE
FIRST ROOM
SECOND ROOM
METERS
0 1 2 3 4
N. MAG.
MAP 108

Fig. 17

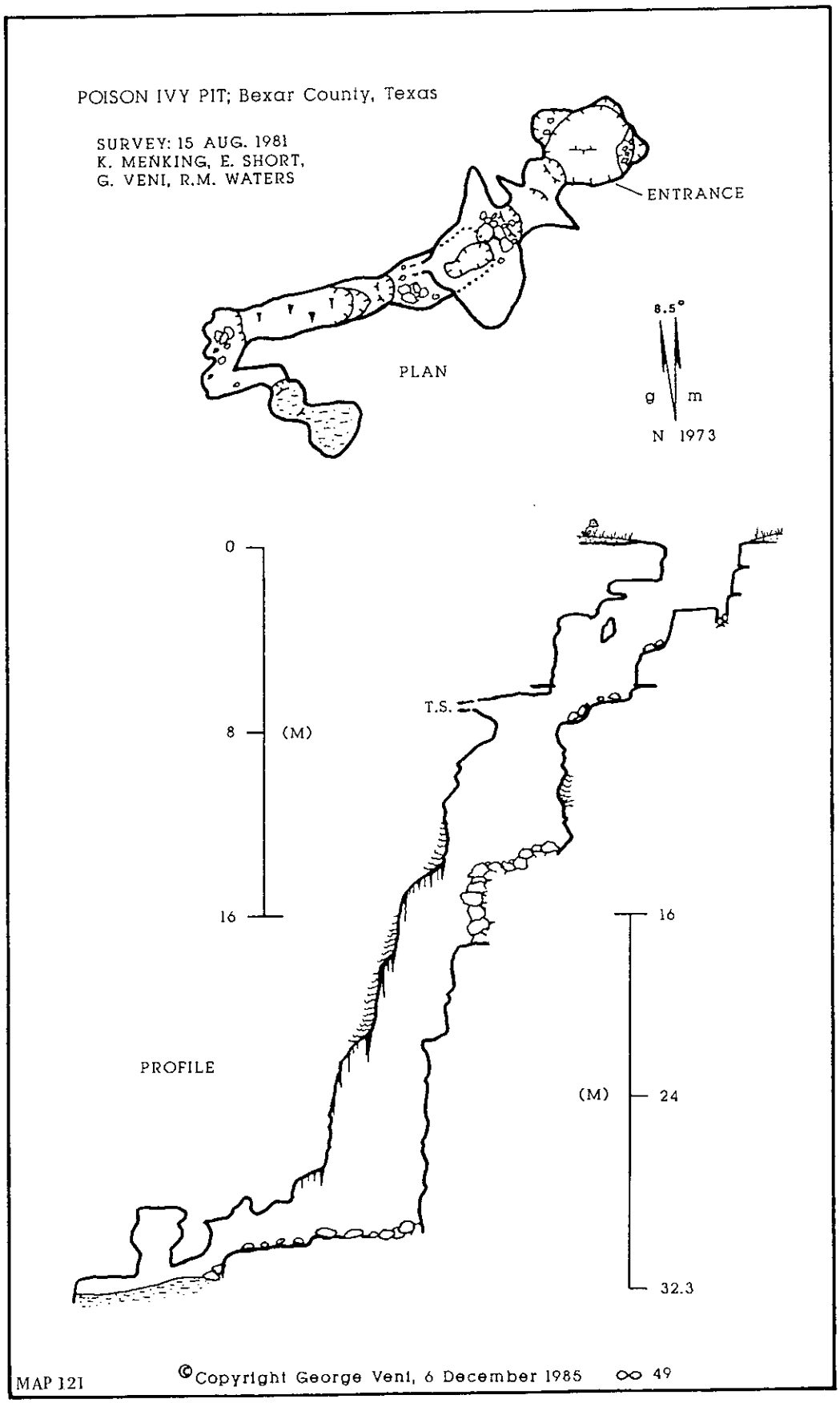
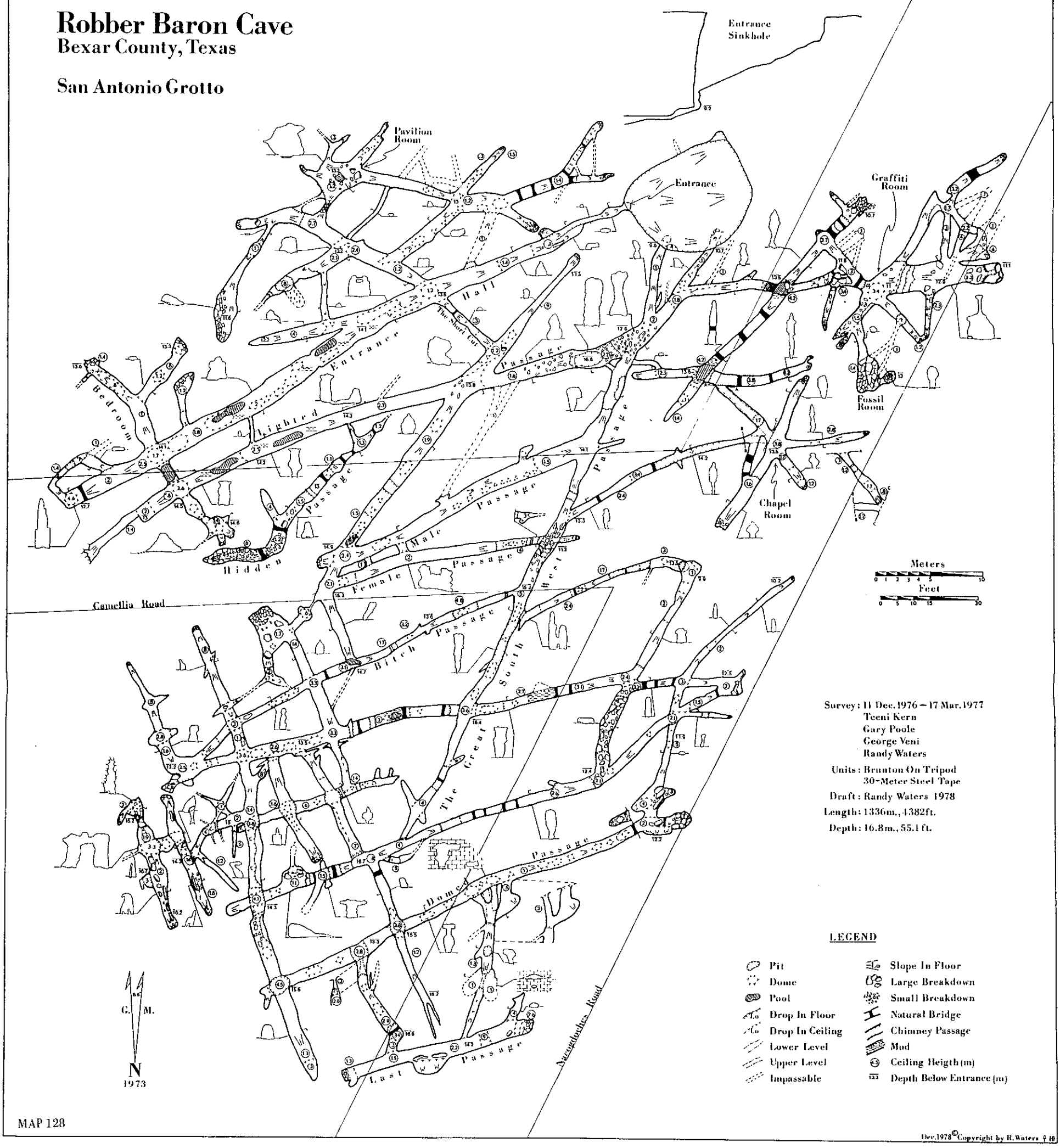

POISON IVY PIT; Bexar County, Texas
SURVEY: 15 AUG. 1981
K. MENKING, E. SHORT,
G. VENI, R.M. WATERS
ENTRANCE
PLAN
8.5°
g
m
N 1973
0
8
(M)
16
T.S.
PROFILE
16
(M)
24
32.3
MAP 121
©Copyright George Veni, 6 December 1985
∞ 49

Fig. 18

Robber Baron Cave

Bexar County, Texas

San Antonio Grotto



Survey: 11 Dec. 1976 – 17 Mar. 1977
Teeni Kern
Gary Poole
George Veni
Randy Waters

Units: Brunton On Tripod
30-Meter Steel Tape

Draft: Randy Waters 1978

Length: 1336m., 4382ft.

Depth: 16.8m., 55.1 ft.

LEGEND

- Pit
- Dome
- Pool
- Drop In Floor
- Drop In Ceiling
- Lower Level
- Upper Level
- Impassable
- Slope In Floor
- Large Breakdown
- Small Breakdown
- Natural Bridge
- Chimney Passage
- Mud
- Ceiling Heigth (m)
- Depth Below Entrance (m)

MAP 128

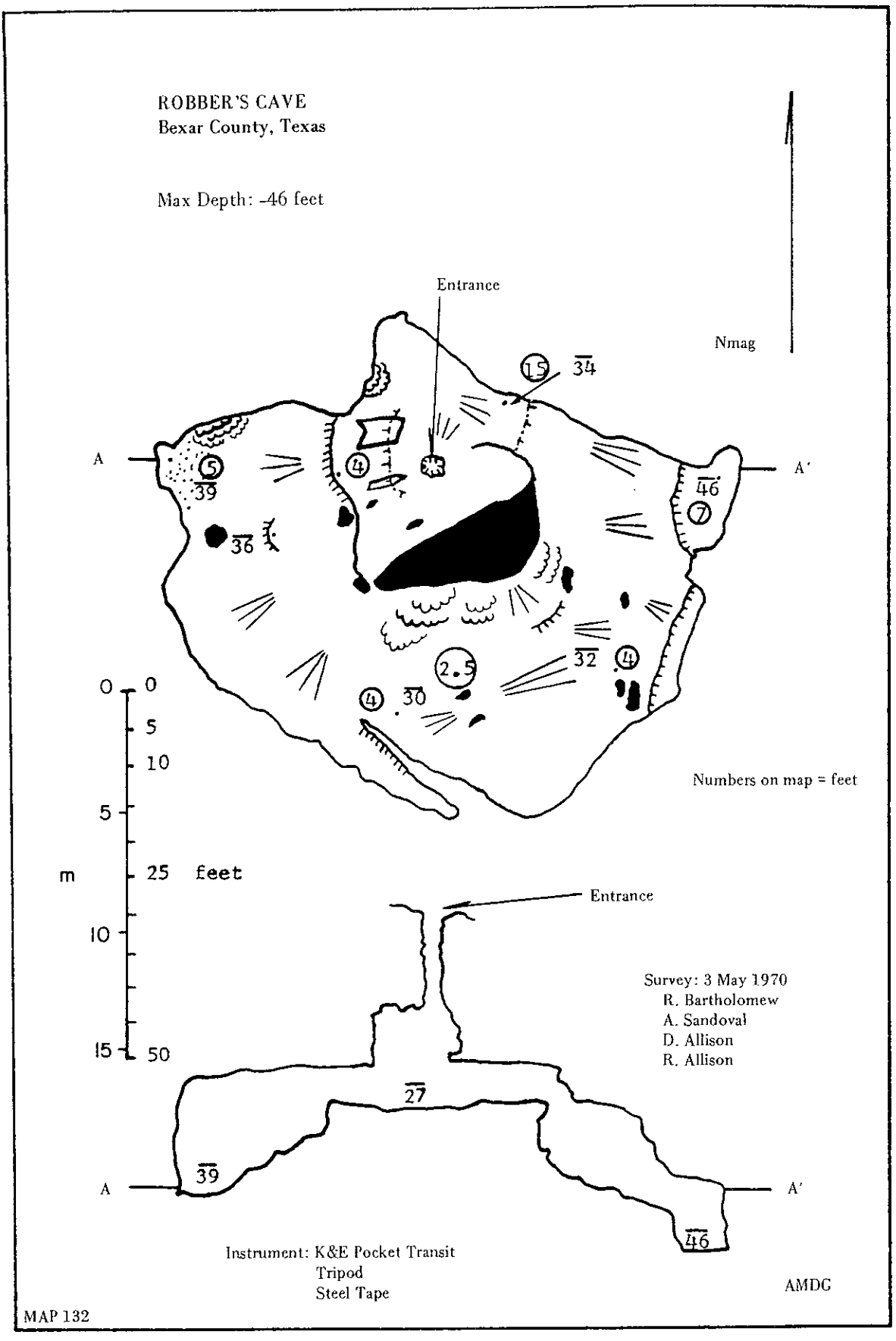

ROBBER'S CAVE
Bexar County, Texas
Max Depth: -46 feet
Entrance
Nmag
A
A'
Numbers on map = feet
m
0
5
10
15
0
5
10
25 feet
50
Entrance
Survey: 3 May 1970
R. Bartholomew
A. Sandoval
D. Allison
R. Allison
A
A'
Instrument: K&E Pocket Transit
Tripod
Steel Tape
AMDG
MAP 132

Fig. 20

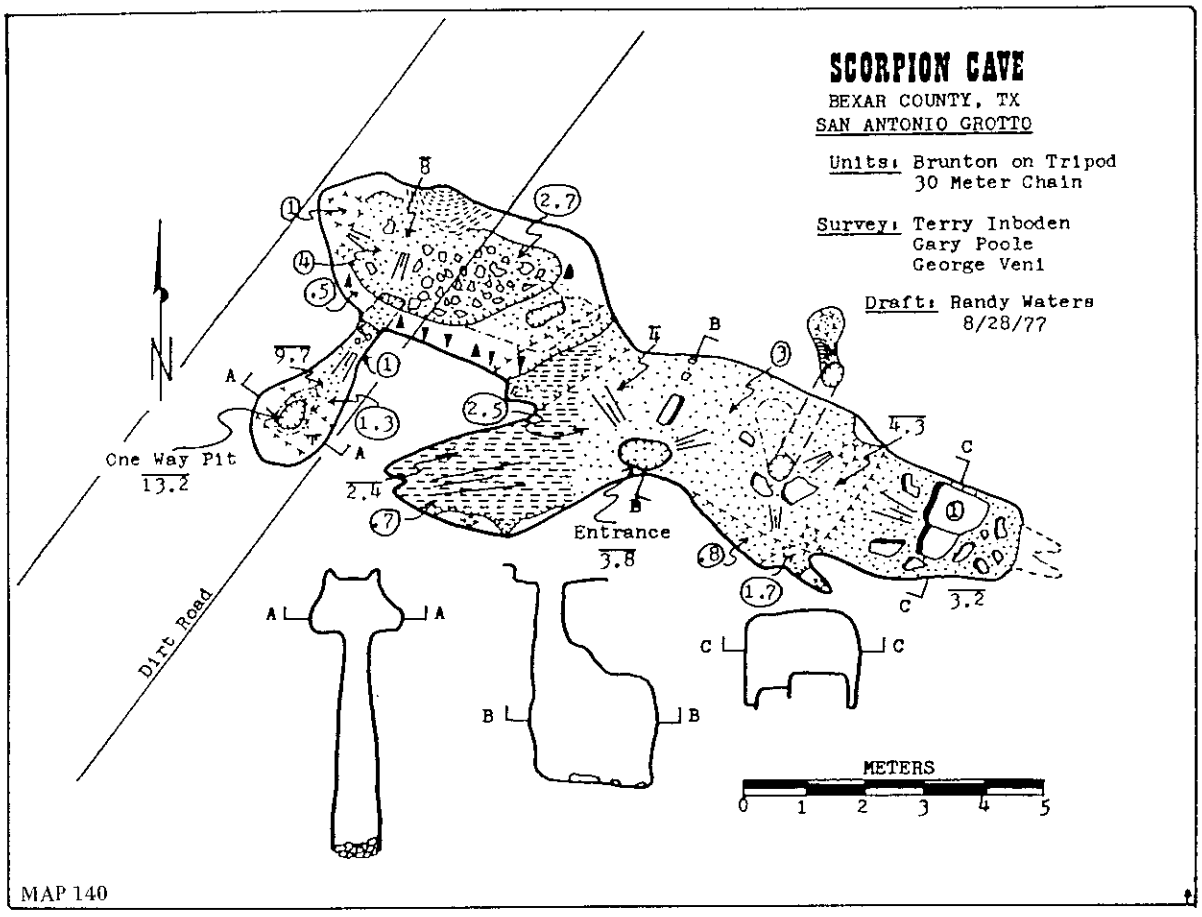

SCORPION CAVE
BEXAR COUNTY, TX
SAN ANTONIO GROTTO
Units: Brunton on Tripod
30 Meter Chain
Survey: Terry Inboden
Gary Poole
George Veni
Draft: Randy Waters
8/28/77
N
One Way Pit
13.2
Dirt Road
Entrance
3.8
9.7
1.3
2.4
2.5
2.7
4.3
3.2
1.7
METERS
0 1 2 3 4 5
MAP 140

Fig. 21

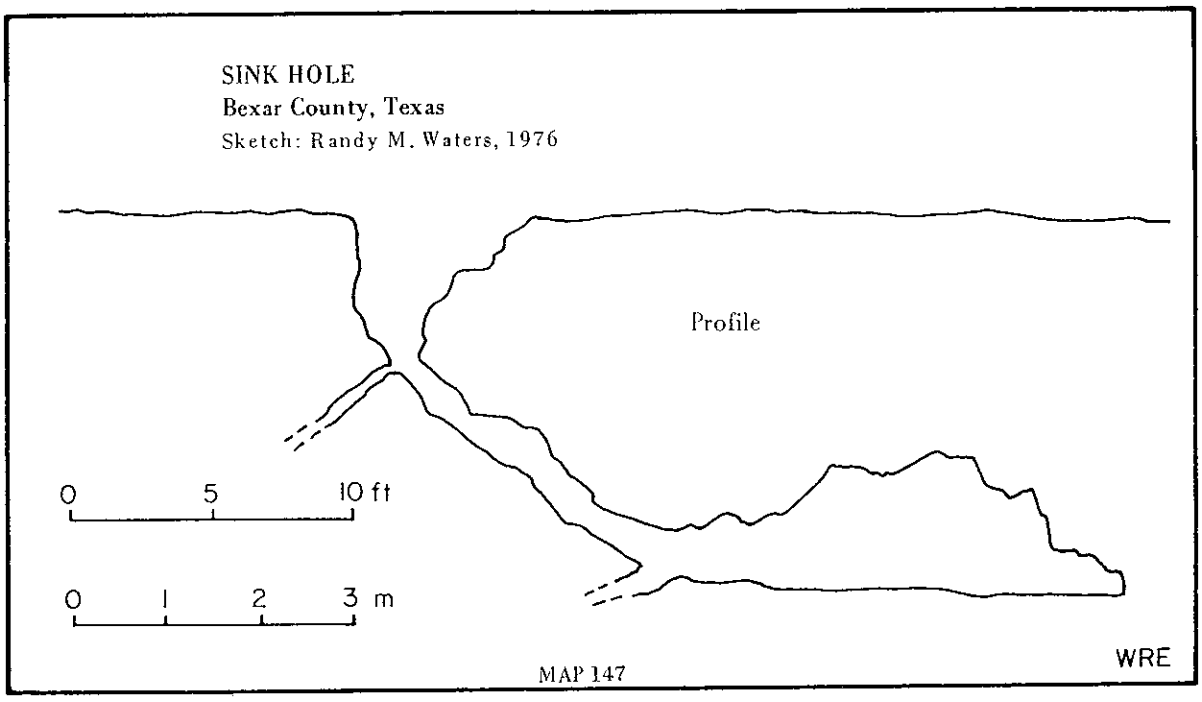

SINK HOLE
Bexar County, Texas
Sketch: Randy M. Waters, 1976
Profile
0 5 10 ft
0 1 2 3 m
MAP 147
WRE

Fig. 22

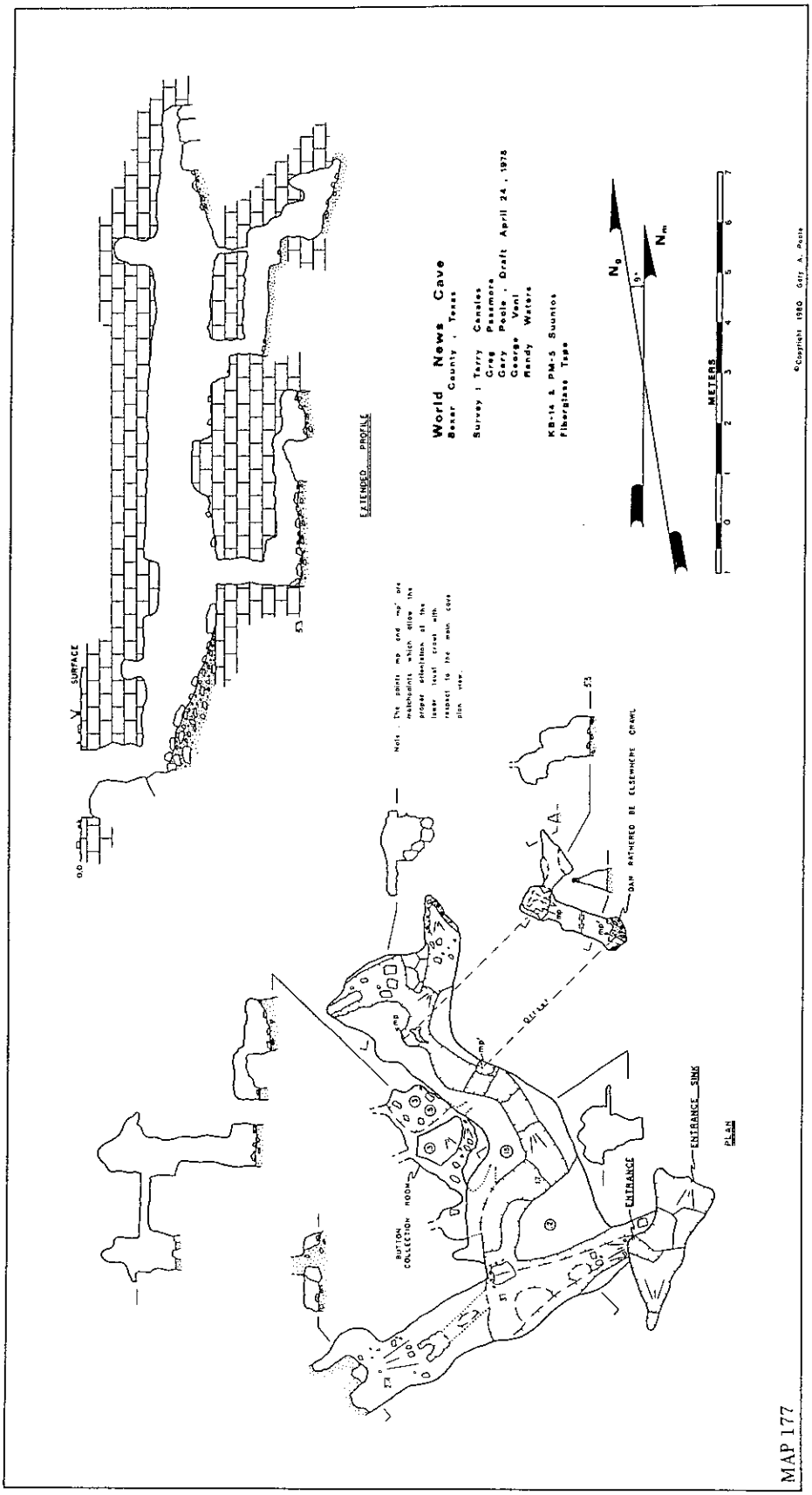

World News Cave
Bexar County, Texas
Survey: Terry Canales
Craig Passmore
Gary Poole, Draft April 24, 1978
George Veni
Randy Waters
KB-14 & PM-5 Suunto
Fiberglass Tape
EXTENDED PROFILE
SURFACE
ENTRANCE SINK
ENTRANCE
BOTTOM COLLECTION ROOM
DAM RATHERED BE ELSEWHERE CRAWL
PLAN
METERS
MAP 177
©Copyright 1980 Gary A. Poole

Fig. 23

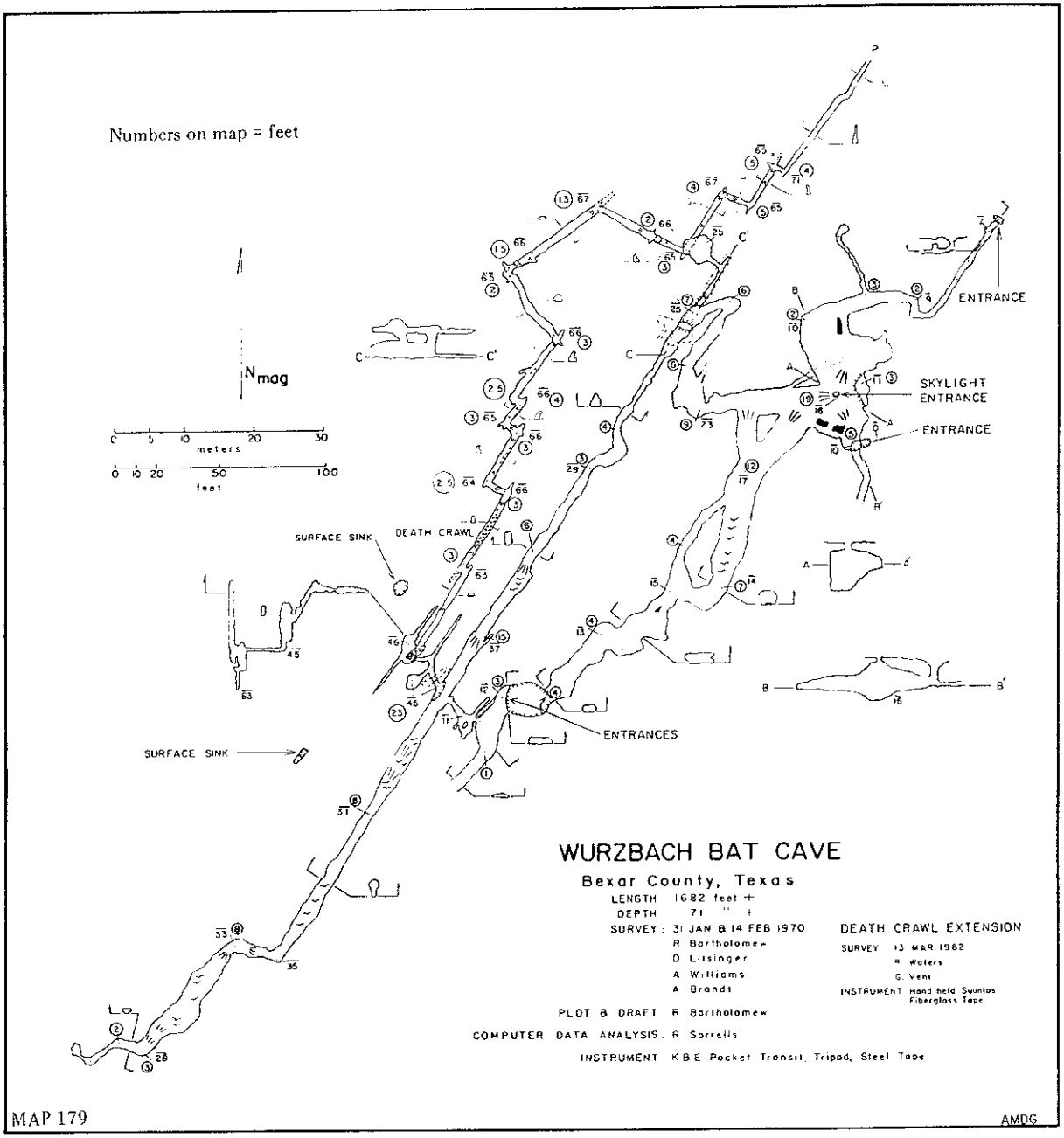

Numbers on map = feet
N mag
0 5 10 20 30
meters
0 10 20 50 100
feet
SURFACE SINK
DEATH CRAWL
SURFACE SINK
ENTRANCES
ENTRANCE
SKYLIGHT ENTRANCE
ENTRANCE
WURZBACH BAT CAVE
Bexar County, Texas
LENGTH 1682 feet +
DEPTH 71 " +
SURVEY: 31 JAN & 14 FEB 1970
R Bartholomew
D Litsinger
A Williams
A Brandt
PLOT & DRAFT R Bartholomew
COMPUTER DATA ANALYSIS R Sorrells
INSTRUMENT K&E Pocket Transit, Tripod, Steel Tape
DEATH CRAWL EXTENSION
SURVEY 13 MAR 1982
R Waters
G. Veni
INSTRUMENT Hand held Suuntos Fiberglass Tape
MAP 179
AMDG

Fig. 24

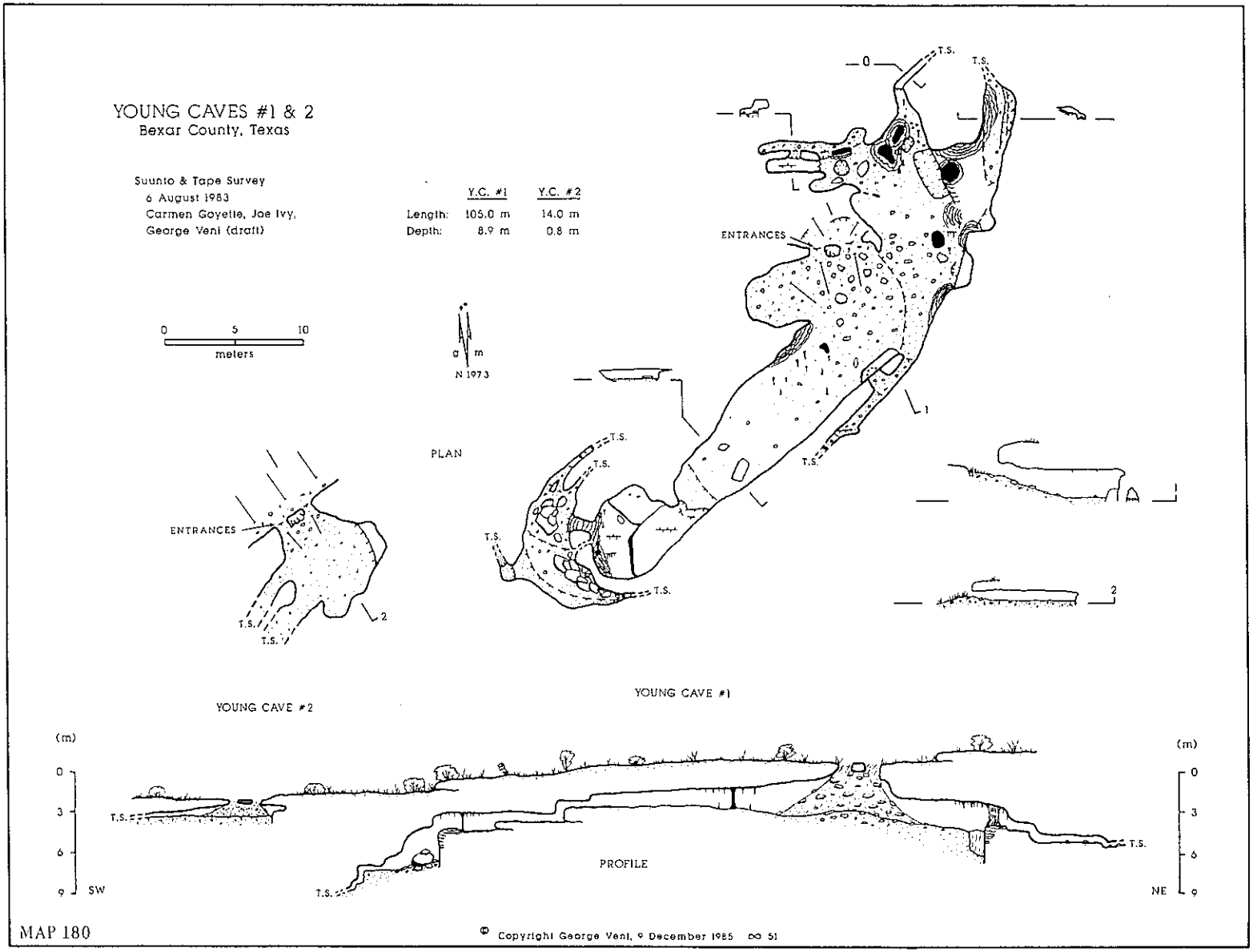

YOUNG CAVES #1 & 2
Bexar County, Texas
Suunto & Tape Survey
6 August 1983
Carmen Goyette, Joe Ivy,
George Veni (draft)
Y.C. #1
Y.C. #2
Length: 105.0 m 14.0 m
Depth: 8.9 m 0.8 m
0 5 10
meters
m
N 197 3
PLAN
ENTRANCES
T.S.
YOUNG CAVE #2
YOUNG CAVE #1
(m)
0
3
6
9
SW
NE
PROFILE
MAP 180
© Copyright George Veni, 9 December 1985 ∞ 51

Fig. 25