THE CAVES OF MEDINA COUNTY, TEXAS

Edited by James R. Reddell

Texas Speleological Survey
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TEXAS SPELEOLOGICAL SURVEY

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TEXAS SPELEOLOGICAL SURVEY

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THE CAVES OF MEDINA COUNTY

GEOLOGY

By A. Richard Smith

Medina County lies along the southern edge of the Edwards Plateau and just west of San Antonio. The county seat is Hondo; other towns are Castroville, D'Hanis, Lacoste, and Devine. East-West route U.S. Highway 90 crosses the county. The principal economy of the area is based on ranching in the north and farming elsewhere. Some oil and gas are produced in the southern part of the county.

The county occupies parts of two physiographic provinces - Edwards Plateau (northern third) and the Gulf Coastal Plain - separated by the Balcones Fault Zone. Total relief is about 1500 feet, but local relief is less than 500 feet. The Edwards Plateau, part of the "hill country", is a rough or rolling upland, with many deep dry valleys. The Gulf Coastal Plain, or Rio Grande Plain, has low relief, with a few north-facing cuestas. The surface drainage is to the south and southeast.

Average annual precipitation in the county is about 27 inches. Rain is distributed fairly uniformly throughout the year with slightly more during the spring and summer. Much of the rain comes in torrential showers or thunderstorms. Long droughts are common. Mean temperature ranges from 53°F in January to 86°F in mid-summer; at Hondo mean annual temperature is 70°F.

Rocks outcropping in Medina County are of Cretaceous, Tertiary, and Quaternary age. Only three formations are speleologically interesting - Edwards, Devil's River, and Austin - all of Cretaceous age. The geologic map shows the distribution of the outcrops of these rocks. Caves are not known from other formations in the county. Since the other formations of the county consist mostly of shale, marl, and sandstone, caves will probably not be found in them.

The Edwards consists of massive beds of light-colored hard, fine-grained limestone with a few intervals of thin-bedded limestone and marl, with a total thickness of 400-500 feet. Chert is common, in thin beds and in nodules. Because of its brittleness, the Edwards joints readily, forming paths for aggressive water to form caves. Many water wells in the Edwards blow air, but this is to be expected since most of these wells also passed through cavernous zones. The character of the Edwards is best seen around Medina Lake and the Medina River valley below the dam. Numerous "solution holes" in the lake shore pass water to large springs just below the dam when the lake is full. Several large caves are in the Edwards as shown on the geologic and location maps.

The Devil's River Formation is very much like the Edwards, but somewhat more fossiliferous. It is the massive reef facies correlative to the Edwards and perhaps the Georgetown overlying the Edwards in the east. Consequently, there is no distinct boundary line between the Edwards and the Devil's River. It is also slightly thicker than the Edwards, being 500-600 feet thick. The hydrologic characteristics of the Devil's River are like those of the Edwards, although the largest cave, Valdina Farms Sinkhole, is in the former.

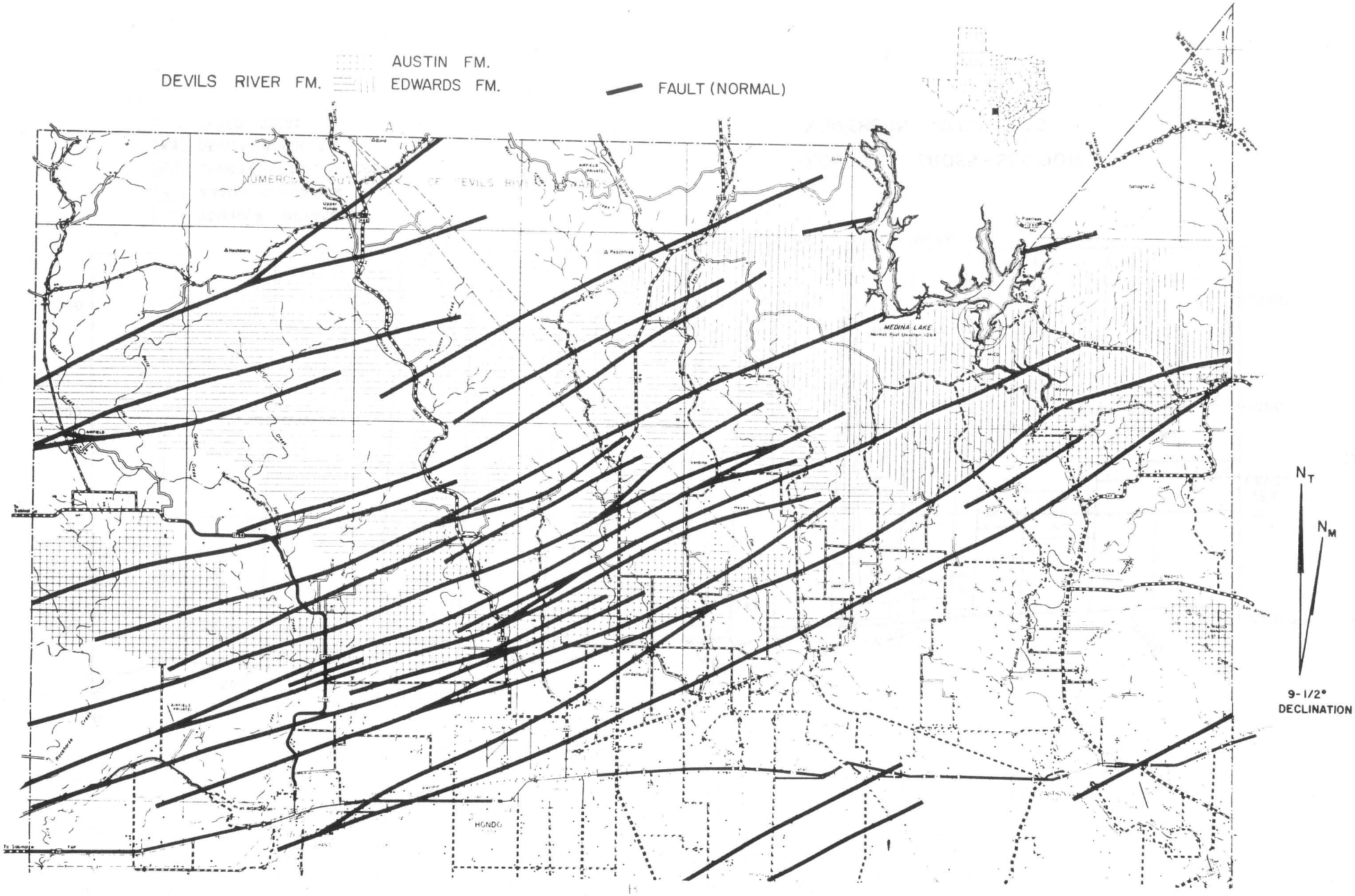
South of the Devil's River-Edwards speleifer is the Austin speleifer. Along a belt from the Bexar-Comal county line south and west to Val Verde County, the Austin, particularly in the lower part and along the upper contact with the Anacacho, has several small to medium-size caves. The lowest 75 feet of the Austin is a light-gray dense thin-bedded limestone, which grades upward into 150 to 200 feet of massive soft, chalky impure limestone. The upper 30 to 60 feet consists of massive white chalky limestone and alternating layers of marl and chalk. Caves develop best in the lower and upper parts of the Austin because these parts are most brittle and thus more susceptible to jointing. Best-known of the caves in the Austin is Marguerite Cave.

The geology of Medina County is complicated by the Balcones fault zone, which passes through the central part of the county. The zone consists of en echelon normal faults, usually down the coast (see geologic cross-section). Displacement of these ENE trending faults varies from a few to 800 feet. The most extensive fault of the Balcones fault zone is the Haby Crossing Fault, passing almost across the county, with a maximum apparent vertical displacement of 600 to 800 feet. Woodard Cave Fault and an unnamed parallel fault have displacements of 200 and 300 feet, respectively. In the western part of the county many of the faults pass into small monoclinal folds. East of the Medina River the fault zone is marked by a southeast facing escarpment. An important effect of the faulting has been displacement of major aquifers-speleifers against aquicludes-speleocludes preventing passage of water, or conversely against other aquifers-speleifers with the opposite effects. Where caves are best developed in the Austin, it has been faulted down against the Devil's River-Edwards.

This report doubtless covers far less than half of the caves of Medina County. The areas immediately to the west of Medina Lake and in the northwestern part of the county are virtually unknown and many caves are rumored in other parts of the county. Much of the county is covered by large ranches owned by men living in San Antonio or other nearby cities. This has made finding caves quite difficult. Because of increased interest in caving by high school and other groups in San Antonio many ranches are now closed to all comers. This is very unfortunate, particularly since the county is of great hydrologic and speleologic interest. It is hoped that this report will stimulate further interest in this region.

ACKNOWLEDGEMENTS: I wish to thank several members of the University of Texas Grotto for assistance in completing cave surveys and in drafting; among these are Don Erickson, Orion Knox, and Susie Loving. Donations from the UT Grotto paid, in part, the costs of this issue. I also wish to thank the following systematists for their identification of invertebrates included in this report: Thomas C. Barr, Jr., carabid, pselaphid, and ptilodactylid beetles; Nell B. Causey, millipeds;

Kenneth Christiansen, collembola; Arthur C. Cole, ants; Richard C. Froeschner, hemipterans; Willis J. Gertsch, spiders; Clarence J. Goodnight, pilionids; Lee Herman, staphylinid beetles; Theodore H. Hubbell, crickets; Leslie Hubricht, snails; Emily Mandelbaum, ostracods; William B. Muchmore, pseudoscorpions; P. J. Spangler, noterid beetles; Harrison R. Steeves, III, asellid isopods; A. Vandel, trichoniscid isopods; Pedro Wygodzinsky, thysanura; Harry C. Yeatman, copepods.



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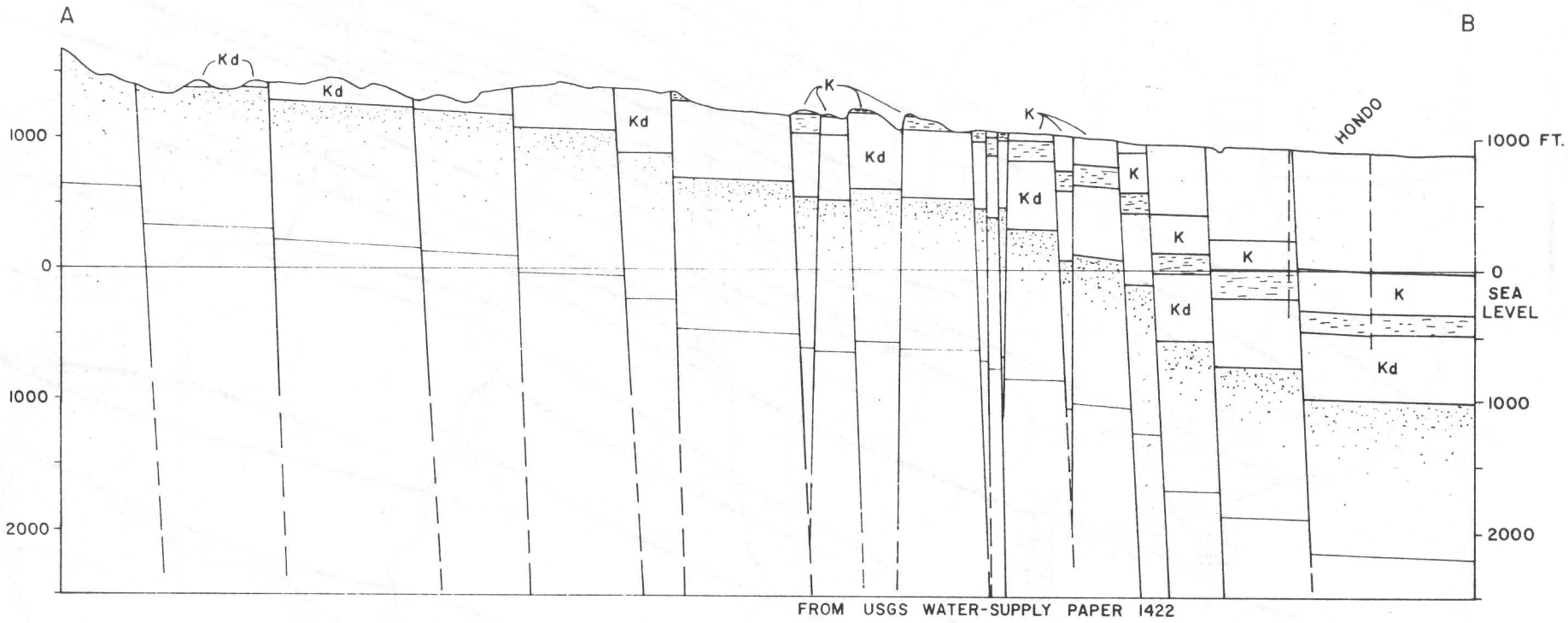
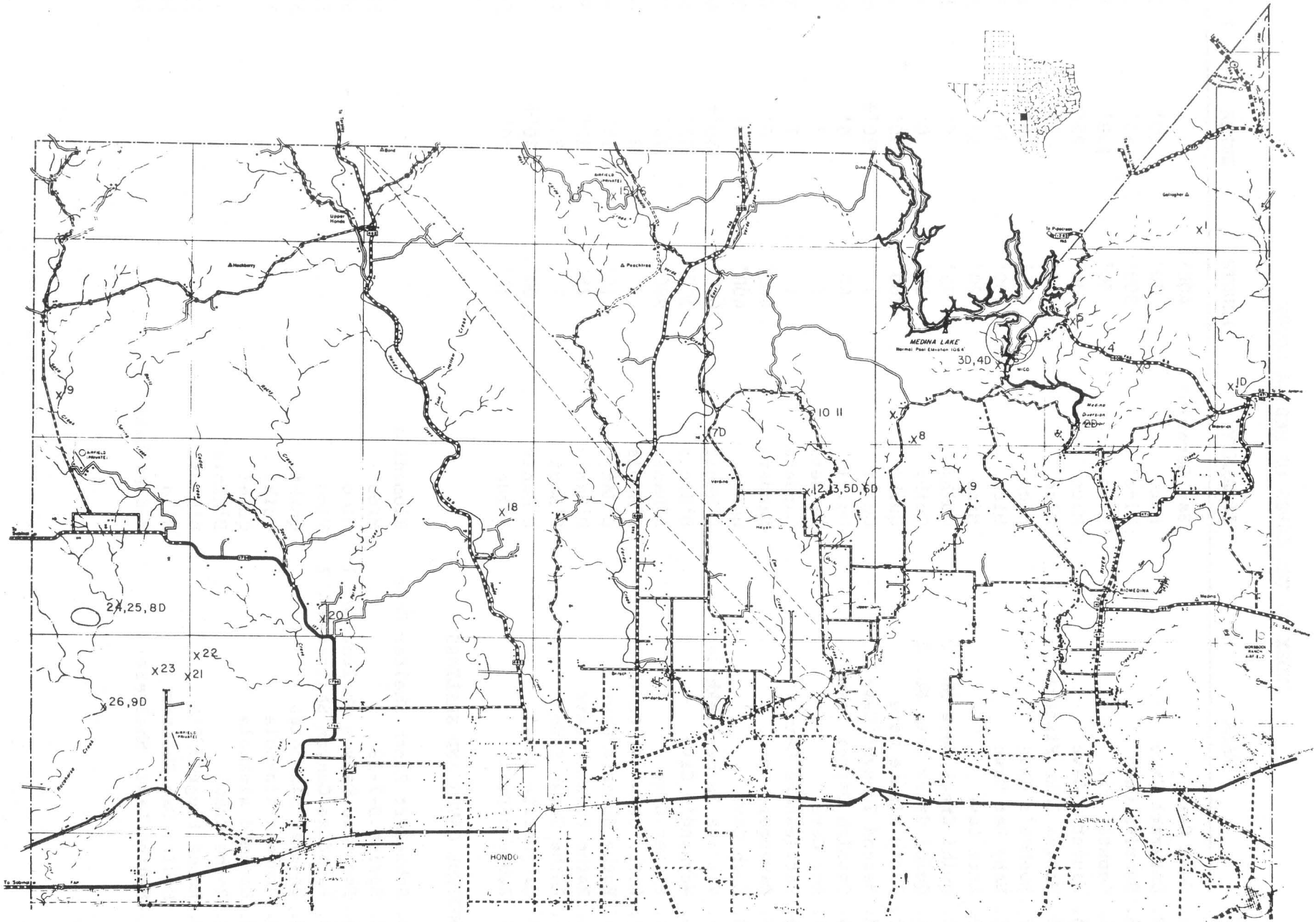
MEDINA COUNTY
TEXAS



FROM USGS WATER-SUPPLY PAPER 1422

YOUNGER CRETACEOUS
K AUSTIN FORMATION
UNDIFFERENTIATED CRET.
Kd DEVILS RIVER FM.
OLDER ROCKS

GEOLOGIC CROSS-SECTION
NORTHERN MEDINA CO.



x5 CAVE LOCATION, KEYED TO INDEX

SOUTHERN MEDINA CO.
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0 1 2 3 4 5 MILES

MEDINA COUNTY
TEXAS

INDEX TO THE CAVES OF MEDINA COUNTY

DOUBTFUL CAVES AND SHELTERS:

ALTERNATE NAMES:

Bandera Bat Cave - Ney Cave
Bat Cave - Haby Bat Cave; Ney Cave
Davenport Dinosaur Cave - Davenport Cave
Donahoe Cave - Valdina Farms Sinkhole
Haba Cave - Haby Bat Cave
Haby Cave - Haby Bat Cave
Hondo Creek Cave - Koch Cave
Lutz Ant Cave - Lutz Cave
Ney Bat Cave - Ney Cave
Rothe Bad Air Cave - Finger Cave; Marguerite Cave
10 Mile Cave - Finger Cave
Val Verde Farms Sink Hole - Valdina Farms Sinkhole
Valdina Sink - Valdina Farms Sinkhole
Woodard Cave - Valdina Farms Sinkhole

BOEHME'S CAVE Medina County (#7)

Medina Lake 15' Quadrangle

Owner: August Boehme

Description: The entrance to the cave is at the end of a shallow draw and takes a considerable amount of flood water following heavy rains. A stock tank is located near and immediately uphill from the cave entrance with the result that much manure is washed into it. The entrance leads directly into a five-foot high shelter-like room about 15 feet long. A single passage, to the left, extends for about 30 feet where there is a seven foot drop, followed shortly by drops of 3, 14, and 14 feet. After about 50 feet the passage appears to end in a mass of logs washed into the cave. Removal of some of these on the surveying trip revealed a small hole on the left permitting a squeeze to the top of a five-foot drop. At the bottom of this drop a small flat-floored room is encountered from which two holes lead down for 15 feet and into a complex area of small holes and small natural bridges. After about 15 feet horizontally a 7 foot drop leads into a small rrom from which consecutive drops of 7 and 6 feet lead to the top of a 13 foot drop into a pool of water. This drop is covered with wet flowstone and rather difficult to climb. Throughout this part of the cave the walls are scoured clean exposing much sharp jagged white limestone. At the bottom of the 13 foot drop, a 6 foot high passage leads 20 feet to a sharp right turn; here it is necessary to enter a passage with several inches of water on the floor. The floor here is of organic debris and manure and the water when disturbed emits a foul odor. Although beginning as a 7 foot high passage this rapidly lowers to 1.5 feet of air space and it becomes necessary to crawl on your stomach. The passage here is several feet wide and with 6-8 inches of water on the floor. This continues without becoming over 3 feet high for about 100 feet at which point a high fissure has developed for a few feet on the left and a few travertine dams cross the passage. Beyond this point the ceiling height is about 3 feet with a few inches of water on the floor. After about 160 feet there is a 6 foot high dome on the left side of the passage and more travertine dams cross the passage. The floor throughout much of this area is gravel overlain with organic material. After an additional 50 feet a dead skunk was encountered on the surveying trip over which it was necessary to squeeze. After 30 feet a small side passage to the left led off slightly above stream level, but is unpromising and appears to end in silt. At this point the ceiling height increases to 4-5 feet and the cave continues at this height for about 125 feet at which point it is possible to leave the water and to enter an area of breakdown-floored crawl. The passage is enlarged here to form a "room". After 80 feet the main passage terminates in a pit about 15 feet deep. At the bottom of this a hole leads through water and apparently up into a domed room, but digging will be required to make the entrance possible. A passage over unstable breakdown leads from the room before the pit and to the top of a pit about 30 feet deep. This pit can be climbed only with very great difficulty and a handline should be used. At the bottom of this pit a second pit about 15 feet deep is found, followed by an unclimbable drop of about 30 feet which has not been entered. (See map, page 12)

History: The cave was first reported by St. Mary's University Speleological Society who reported that they explored the cave to "solution channel level only," which is presumed to mean only to the beginning of the water crawl. A report in the files of Bob Hudson indicating that they had explored the cave for one mile is obviously in error and probably is confused with a report by the owner that the cave has been explored for over a mile. The only recent trip which is recorded is one made on February 16, 1964, by James Reddell, David McKenzie, and John Porter. This trip resulted in exploration, biological collections being made, and a survey of all explored passage back to the pits. It has been very difficult to obtain permission to enter this cave and trips to it should be kept to an absolute minimum.

Biology: The fauna of this cave is quite interesting and comparatively rich; it is certainly deserving of additional study. The presence of an abundant aquatic fauna is doubtless related to overflow of the stock tank and the presence of great quantities of organic material in the water. The following is a faunal list of all organisms recorded from the cave.

Hydrozoa
- Hydra sp. -- accidental

Planaria
- Unidentified specimen -- ?troglobite

Snails
- Glyphyalinia roemeri (Pilsbry and Ferriss) -- troglophile
- Helicina orbiculata (Say) -- trogloxene
- Physa sp. -- troglophile; abundant in the water-floored passage

Ostracods
- Cypridopsis sp., nr. vidua (Muller) and okeechobei Forbes -- troglophile
- Cyprinodopsis ?helvetica Kaufmann -- troglophile
- Physocypria pustulosa (Sharpe) -- troglophile

Copepods
- Macrocyclops albidus (Jurine) -- troglophile; abundant

Isopods
- Protrichoniscus reddelli Vandel -- troglobite

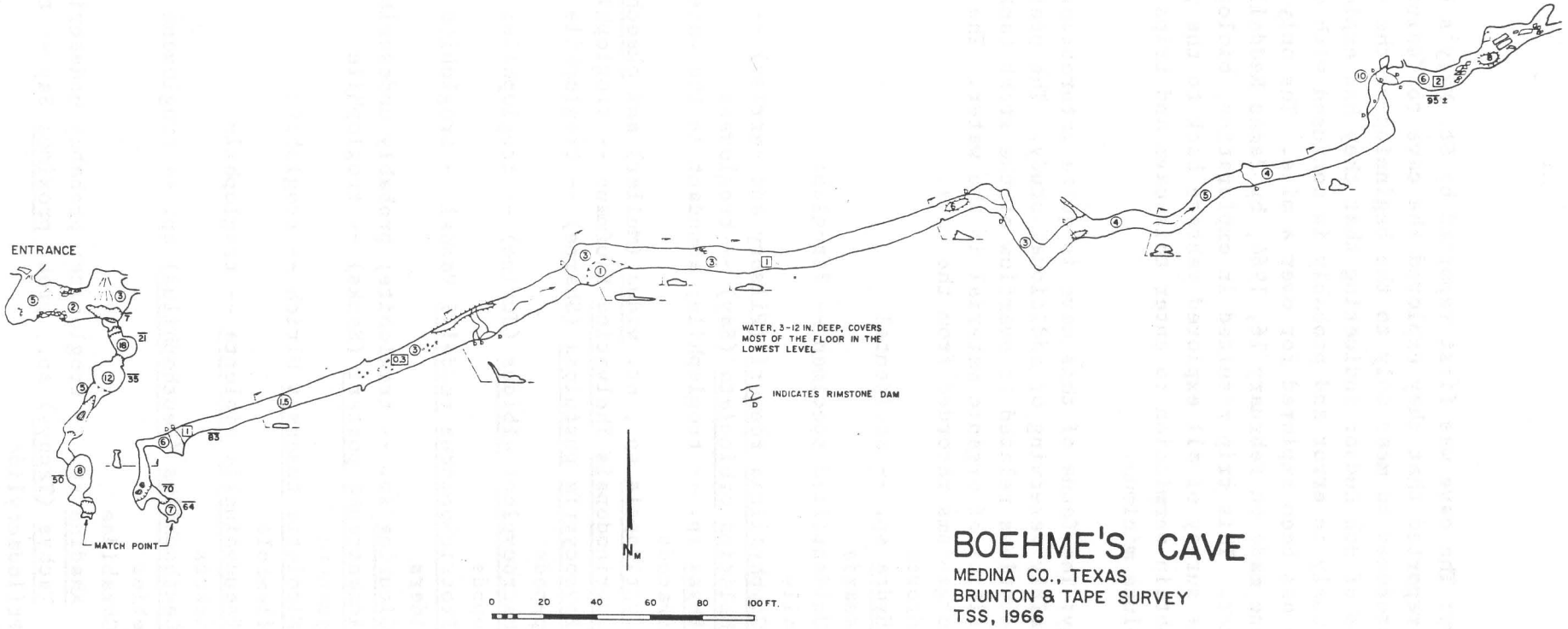
Spiders
- Cicurina sp. -- troglobite; probably undescribed
- Achaearanea porteri (Banks) -- troglophile

Thysanura
- Nicoletia texensis Ulrich -- troglobite

Collembola
- Pseudosinella violenta -- troglophile

Crickets
- Ceuthophilus (Ceuthophilus) sp. -- trogloxene

Beetles
- Carabidae
  - Rhadine sp. -- troglobite; probably undescribed
  - Tachys (Tachys) sp., prob. proximus Say -- troglophile
- Ptilodactylidae
  - Lachnodactyla ?texana Schaefer -- accidental
- Sta phylinidae
  - Stilicolina condei Jarrige -- troglophile



BOEHME'S CAVE

MEDINA CO., TEXAS
BRUNTON & TAPE SURVEY
TSS, 1966

Bats
Unidentified

Bibliography: Reddell, J. R. 1965. "Cave beetles of the genus Rhadine." Texas Caver, 10(3):48-49, 53.
Reddell, J. R. 1965a. "A checklist of the cave fauna of Texas. I. The Invertebrata (exclusive of Insecta)." Texas J. Sci., 17(2):143-187.
Reddell, J. R. 1966. "A checklist of the cave fauna of Texas. II. Insecta." Ibid, 18(1):25-56.

Ref: TSS files

CATARACT CAVE — Medina County (#2)

Medina Lake 15' Quadrangle

Owner: A. J. Schuchart

Description: The cave entrance is in a dry creekbed and is surrounded by a concrete wall which keeps trash and other debris from washing into the cave. The entrance is a drop of about 15 feet and requires equipment to negotiate. At the bottom there is a small room about 4 feet high which extends to the left. The passage then makes a slight right bend and extends for about 150 feet, at which point a 25 foot unclimbable pit is encountered. At the bottom of this pit is the largest room in the cave. Two passages, an upper and a lower, leave this room to join again at the top of the third pit. This pit drops about 15 feet into the stream passage. Downstream the passage extends past a windmill pipe and dam for about 10 feet before it ends and the stream sinks into the floor. Upstream the passage is generally narrow with a 15 to 20 foot high ceiling, contains many cataracts and waterfalls, and ends after about 250 feet. There are a few formations in the cave.

History: The only thing definitely known about the history of the cave is that it was explored by the owner, who located the well site and built the dam below the windmill pipe. It was explored on July 24, 1960, by Orion Knox, Al Brandt, and Leonard Clark of the St. Mary's University Speleological Society. Permission to enter the cave has recently been denied cavers because of the owner's concern over liability.

Ref: Orion Knox

COONTOP PIT — Medina County (#4)

Medina Lake 15' Quadrangle

Owner: Seideman Ranch

Description: The entrance to the cave is a hole about 3 feet in diameter located on a gentle hill slope. It drops vertically for about 10 feet at which point a steep slope leads to the top of an unclimbable pit about 6 feet in diameter and

40 feet deep. At the bottom of this drop a slight offset leads to a drop of about 20 feet to a dirt slope about 8 feet long. A slight hole goes back a few feet from this slope and ends. At the bottom of the slope, which is very loose, a 30 foot pit leads to a dead-end. The walls of part of the cave are covered with flowstone. The total depth of the cave is about 100 feet.

History: The cave, so far as is known, has only been entered one time. It was explored and a biological collection made in 1966 by James Reddell and David McKenzie.

Biology: Two large raccoons were seen in a small dome at the top of the pit, giving the cave its name. The cave is generally poor in invertebrates, but it is inhabited by the troglobitic milliped, Cambala speobia, which is found in caves throughout the Edwards Plateau. A faunal list follows:

Snails
Glyphyalinia roemeri (Pilsbry and Ferriss) -- troglophile
Millipeds
Aniulus sp. -- accidental
Cambala speobia (Chamberlin) -- troglobite
Spiders
Cicurina varians Gertsch and Mulaik -- troglophile; found under rocks
Collembola
Pseudosinella violenta -- troglophile
Crickets
Ceuthophilus sp. -- trogloxene
Raccoons
Procyon lotor (Linnaeus) -- trogloxene

Bibliography: Reddell, J. R. 1967. "A checklist of the Cave Fauna of Texas. III. Vertebrata." Texas J. Sci. (In press)

Ref: TSS files

DAVENPORT CAVE (DAVENPORT DINOSAUR CAVE) Medina County (#17)

Bandera 15' Quadrangle

Owner: Mrs. Cleora Davenport

Description: The main entrance to the cave is a small hole about 2.5 by 2 feet which leads horizontally into a cliff face for about 1 foot at which point it intersects a dome about 6 feet above the floor and about 5 feet below the ceiling. At the bottom of this a low crawl extends for about 10 feet where a low passage to the right leads off. This continues over breakdown for about 30 feet before intersecting a second low entrance. A breakdown area extends from this second entrance which is not thoroughly explored, but appears to be of limited extent. From the first entrance the passage continues straight ahead over breakdown and enters the main passage of the cave. Massive breakdown occurs throughout this passage, which is about 20 feet wide and up to 30 feet high. One particularly

large breakdown block, known as the Lookout Rock, extends almost to the ceiling and overlooks a low area of smaller breakdown. About 100 feet from this block massive flowstone and a general rise in passage level is encountered. To the right, this extends at a slope up to a small breakdown area floored with large calcite crystals broken from the ceiling by vandals. The passage ends shortly beyond this point. Straight ahead, a passage leads to the red clay room and a small formation area. The total length of the cave passages is about 480 feet. Goat bones are strewn throughout the passage immediately beyond the second entrance. (See map, page 16)

History: The cave is very well known locally and has been visited often by local people. No details of this early history are known. The first recorded trip to the cave by cavers was made on October 21, 1956, by Donald L. Widener, Malone, and Isbell. A report filed by Widener indicates that it has been mapped by St. Mary's University Speleological Society. This map is apparently not available. The cave is also marked on the geology map included in Holt (1951). Barbara and Jim Herschberger, Don Erickson, Jan Houston, and Chip Carney visited the cave in February 1966. It was visited in July 10, 1966, by Jane and James Reddell, at which time a small collection of invertebrates was made. The cave was mapped on March 17, 1967, by Orion Knox, Don Erickson, Jerry Broadus, and Jan Houston of the University of Texas Grotto.

Biology: The entrance area of the cave is inhabited in summer months by a large number of harvestmen. Cave crickets and reduviid bugs also are found near the entrance. Spiders and rhadinid beetles were taken beneath small rocks in the moist flowstone area near the cave end. Troglobitic millipeds and isopods were taken from moist spots and small bits of organic debris in the breakdown area near the second entrance. A faunal list follows:

Isopods
- Trichoniscidae -- troglobite; unidentified

Mites
- Unidentified

Harvestmen
- Unidentified -- trogloxene

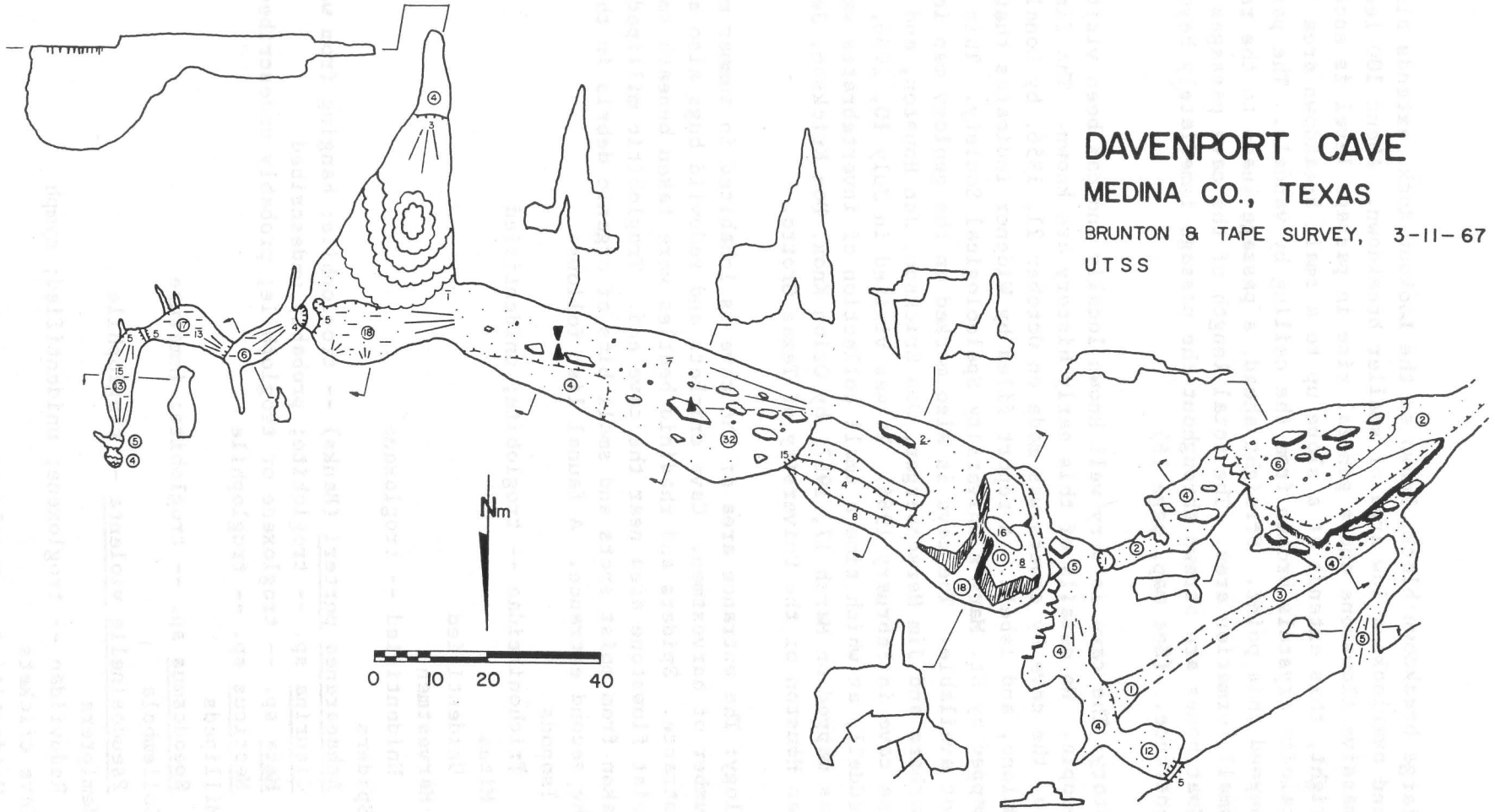
Spiders
- Achaearanea porteri (Banks) -- troglophile; hanging from webs on walls
- Cicurina sp. -- troglobite; probably undescribed
- Meta sp. -- trogloxene or troglophile; probably undescribed
- Nesticus sp. -- troglophile

Millipeds
- Speodesmus sp. -- troglobite; immature

Collembola
- Pseudosinella violenta -- troglophile

Hemiptera
- Reduviidae -- trogloxene; unidentified; nymph

Cave crickets
- Unidentified -- trogloxene


DAVENPORT CAVE
MEDINA CO., TEXAS
BRUNTON & TAPE SURVEY, 3-11-67
UTSS
Nm
0 10 20 40

Beetles
Carabidae
Rhadine sp. -- troglobite; probably undescribed
Tenebrionidae
Embaphion muricatum subsp. -- trogloxene; taken in entrance crawl
Salamander -- trogloxene; specimen lost
Bats
Tadarida brasiliensis mexicana (Saussure) -- trogloxene; reported by Widener

Bibliography: Holt, C. L. R., Jr. 1951. "Geology and ground-water resources of Medina County, Texas." Texas Board of Water Engineers Bull., 5601. 278 pp. + 5 pls.

Ref: TSS files

FINGER CAVE (ROTHE BAD AIR CAVE) (10 MILE CAVE) Medina County (#21)

Sabinal 15' Quadrangle

Owner: H.A. "Hoss" Finger; leased by Billy Rothe

Description: The entrance to the cave is in the bed of a dry draw and takes most of the water reaching that point. The entrance drop can be climbed, but 12 feet of it is difficult and equipment is preferable. This drop leads into a room about 30 feet long and 15 to 20 feet wide with a varying ceiling height. This room and the pits are all formed along an east-west fault. A passage to the west extends as a crawlway containing leaves and organic debris. This passage averages 3 to 4 feet in diameter for 500 feet. It is entered by a 25 foot pit in the west end of the entrance room. A tight squeeze to the east leads to a stoopway that meanders around and finally comes to a 25 to 30 feet pit. It is possible to bypass this pit and to climb down a second pit, which connects to the first at the bottom. A crawl leads off that pools in rainy weather. This crawl extends back about 200 feet before becoming too small. The other way from the pit a crawl and a chimney extend short distances before ending. A few side passages from the main passage were left unchecked. There are a few formations. An estimated 2000 to 3000 bats were present in the cave in March, 1967. (See map, page 18)

History: The first exploration of the cave was by Bill Russell, John Zuck, and Bob Benfer who entered the first room and found a small bat colony there. The air, however, was too bad to continue exploration. This was in 1960. In March 1964 Orion Knox, Al Brandt, John Kenny, Douglas and Thomas Barnette, Gerold Bledsoe, Robert Szalwmski, and Tom Lincoln made a careful exploration. The cave was mapped on March 25, 1967, by A. Richard Smith and Susie Loving. At that time the air was good.

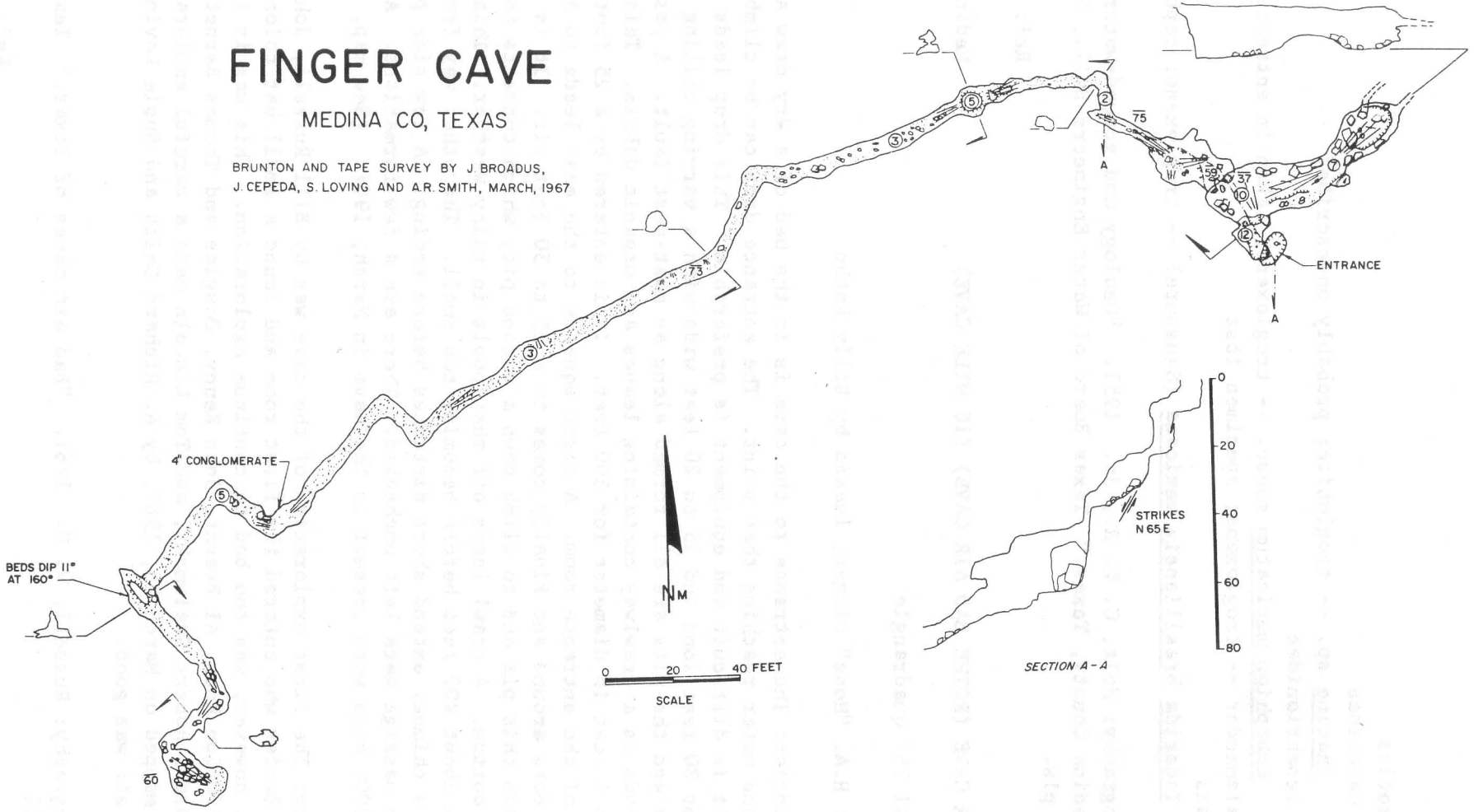
Bibliography: Russell, W. H. 1961. "Bad air caves of Texas." Texas Caver, 6(10): 112.

Ref: TSS files

FINGER CAVE

MEDINA CO, TEXAS

BRUNTON AND TAPE SURVEY BY J. BROADUS,
J. CEPEDA, S. LOVING AND A.R. SMITH, MARCH, 1967



GOAT CAVE — Medina County (#1)

Medina Lake 15' Quadrangle

Owner: Mrs. C. McNutt

Description: The cave is located in a grove of trees on top of a hill. The main entrance is a large collapse sinkhole about 60 feet wide and 40 feet long. It is possible to walk down the south side of the sink. Along the north side a slope leads down to an undercut sheltered area, but no passages lead out. To the east a passage about 40 feet wide extends. Massive breakdown on the right side leads up to the ceiling, but along the left side the ceiling height ranges up to 15 feet. Several large drip formations may be found along the passage covering parts of the floor. After about 75 feet an abrupt ceiling drop coincident with a slope down leads into a small 5 foot high alcove on the left while the passage narrows abruptly on the right and after 25 feet a second entrance is encountered. This is reached by a slope up to the bottom of the elongated 10 foot deep, 5 foot wide opening. About 50 feet before this entrance a drop and slope over breakdown along the south wall leads down into an elongated room about 30 feet wide and 200 feet long. The floor is of breakdown covered with bat guano. The ceiling height in the room ranges from 2 feet along the west end and the sides to about 15 feet in the center. Along the east end a steep series of slopes lead down to a guano plug. An apparent passage extends from here but would require excavation to enter. About 40 feet from the end of the room a 5 foot climb leads up into a small opening on the north side. Immediately inside this opening a slope leads down about 5 feet. This clay-floored passage extends for about 40 feet and contains the only troglobites found in the cave. Two small side-passages lead from this passage. (See map, page 20)

History: The cave has been occasionally visited by the foreman of the ranch and doubtless by guests of the dude ranch on which it is located. The cave was first reported by cavers when it was visited and mapped by Jim Jasek and Larry Wertheim on December 23, 1964. A small biological collection was made on July 9, 1966, by Jane and James Reddell. The cave has also been visited by David McKenzie.

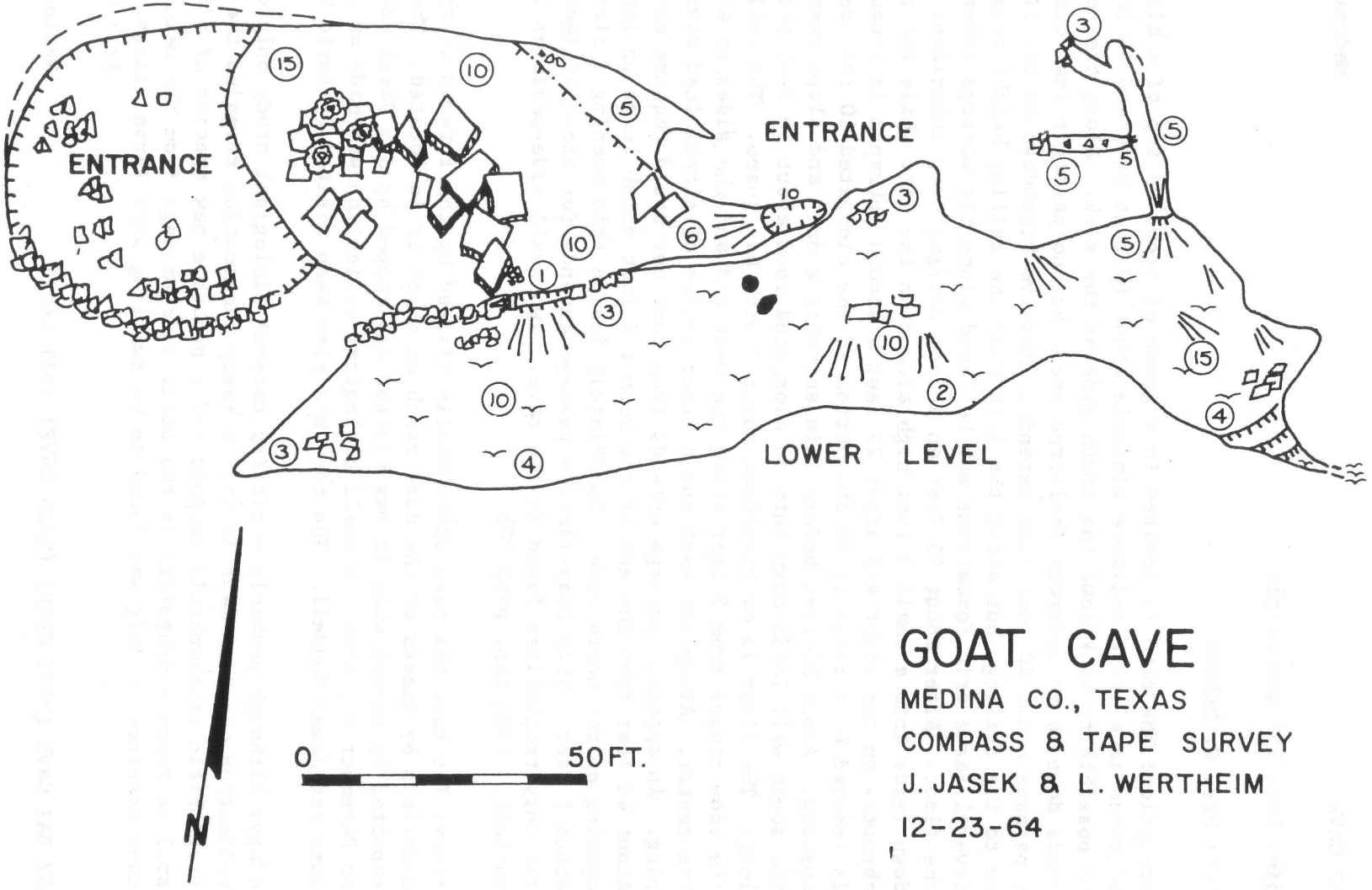
Biology: Although probably meritting careful biological study only one very small collection has been made in it. A hasty examination revealed the presence of troglobitic trichoniscid isopods and a probable new species of milliped (Speodesmus sp.) on raccoon droppings in the small side passage from the main room. The cave entrance in July was found to be swarming with larval ticks.

Ref: TSS files

HABY BAT CAVE (HABY CAVE) (HABA CAVE) (BAT CAVE) — Medina County (#8)

Medina Lake 15' Quadrangle

Owner: O. F. Haby



GOAT CAVE

MEDINA CO., TEXAS

COMPASS & TAPE SURVEY

J. JASEK & L. WERTHEIM

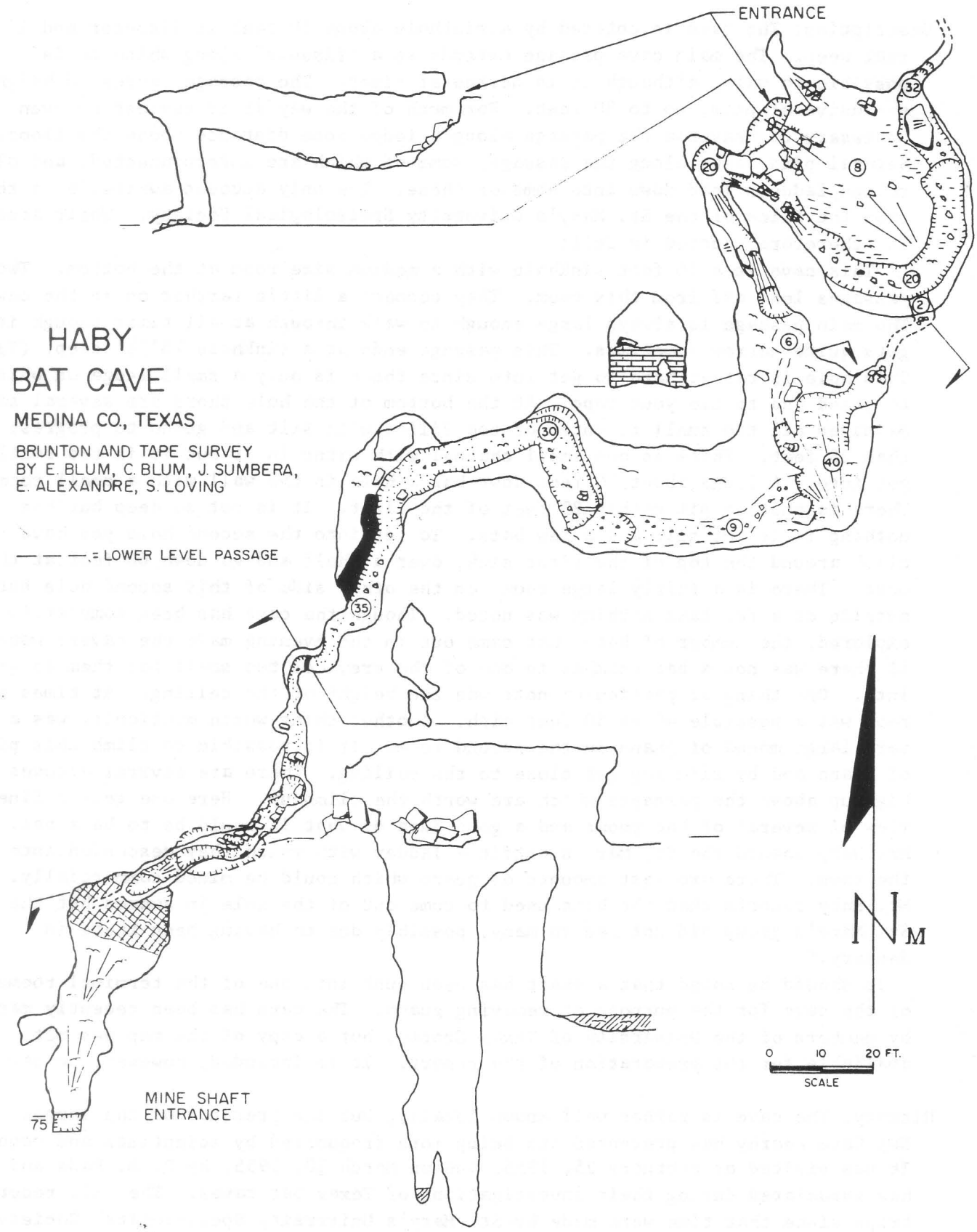
12-23-64

Description: The cave is entered by a sinkhole about 10 feet in diameter and 15 feet deep. The main cave passage extends as a "fissure" along which it is possible to walk, although it is narrow at times. The passage ranges in height, exclusive of pits, up to 30 feet. For much of the way it is easiest or even necessary to traverse the passage along a ledge some distance above the floor. Several pits occur along the passage, some of which are interconnected, and old rotten ladders lead down into some of these. The only account available is that from the files of the St. Mary's University Speleological Society. Their account is, therefore, quoted in full:

"This cave is a 16 foot sinkhole with a medium size room at the bottom. Two passages lead off from this room. They connect a little farther on in the cave. The main passage is always large enough to walk through at all times though it gets quite narrow sometimes. This passage ends at a sinkhole 76'7½' deep. (?) This hole is rather hard to get into since there is only a small ledge on which to stand and to tie your rope. At the bottom of the hole there are several small passages all too small to enter or too filled with silt and guano to progress more than 25 feet. There is one small channel with water in it but it is too small to get into. A ledge about 50 feet down has a hole in the wall with a small room. There is another pit within 25 feet of the first. It is not so deep but has nothing in it but silt and a few bats. To get into the second hole you have to climb around the top of the first sink, over a shelf and go down 60 feet at the most. There is a fairly large room on the other side of this second hole but outside of a few bats nothing was noted. Though the cave has been completely explored, the number of bats that came out in the evening made the cavers wonder if there was not a bat chamber in one of the crevices too small for them to get into. One thing of particular note was the height of the ceiling. At times the room was a possible 40 to 50 feet high. Another thing worth mentioning was a very large mound of guano in the second room. It is possible to climb this pile of guano and by climbing get close to the ceiling. There are several alcoves high up above the passages which are worth the climb up. Here one gets a fine view of several of the rooms and a good idea of what it would be to be a bat. Mr. Haby loaned the St. Mary's outfit a ladder with which they descended into the cave. There are vast amounts of guano which could be mined commercially. Mr. Haby reports that the bats used to come out of the hole in swarms but the St. Mary's group did not see so many, possibly due to having been there in January."

It should be noted that a shaft has been sunk into one of the terminal rooms of the cave for the purpose of removing guano. The cave has been recently mapped by members of the University of Texas Grotto, but a copy of the map was not available for the preparation of the report. It is included, however, on page 22.

History: The cave is rather well-known locally, but the presence of the larger Ney Cave nearby has prevented its being more frequented by scientists and cavers. It was visited on February 25, 1955, and on March 10, 1955, by R. B. Eads and his associates during their investigations of Texas bat caves. The only recorded trips since that time were made by St. Mary's University Speleological Society in the 1950's and by members of the University of Texas Grotto more recently.


ENTRANCE
HABY
BAT CAVE
MEDINA CO., TEXAS
BRUNTON AND TAPE SURVEY
BY E. BLUM, C. BLUM, J. SUMBERA,
E. ALEXANDRE, S. LOVING
— — — = LOWER LEVEL PASSAGE
32
8
20
20
2
6
30
40
9
35
MINE SHAFT
ENTRANCE
75
M
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SCALE

A small collection of invertebrates was made in the cave on October 17, 1964, by James Reddell, David McKenzie, and John Porter, but lack of time and equipment prevented a careful study. The cave was mapped by Ed Alexander, Susie Loving, and E. and C. Blum on March 19, 1967. The date of the excavation of the artificial shaft or the extent of mining activities is not known.

Biology: The cave is of special interest as one of the few Texas cave localities for the old man bat, Mormoops megalophylla megalophylla. These were first reported from the cave by Eads, Menzies, and Wiseman (1956). On February 25, 1955, they took two specimens of this bat, and on March 10, 1955, a third specimen. Nothing else has been published on the bats of the cave, although it shelters Myotis velifer incautus and probably Tadarida brasiliensis mexicana. The invertebrates taken in the cave were mostly found near the entrance. A faunal list follows:

Isopods
- Unidentified - trogloxene or troglophile; common epigean species

Millipeds
- Cambala speobia (Chamberlin) -- troglobite; found on guano

Phalangids
- Unidentified

Spiders
- Cicurina varians Gertsch and Mulaik -- troglophile; found under rocks
- Achaearanea porteri (Banks) -- troglophile; found hanging from walls
- Meioneta sp. -- troglophile; found in webs among breakdown and on walls
- Ctenus sp. -- trogloxene; found on walls

Collembola
- Pseudosinella violenta -- troglophile; abundant

Hemiptera
- Reduviidae
  - Triatoma gerstaeckeri (Stal.) -- trogloxene; large specimen below entrance

Crickets
- Ceuthophilus (Geotettix) cunicularis Hubbell -- trogloxene

Beetles
- Staphylinidae
  - Belonuchus sp. nr moquinus Casey -- troglophile

Bats
- Myotis velifer incautus -- trogloxene
- Mormoops megalophylla megalophylla -- trogloxene

Bibliography: Baker, Ken. 1957. "Biological notes." Texas Caver, 2(1):3. Reprinted in: Speleo Digest, 1957(2):13. Pittsburgh Grotto Press, 1958.

Eads, R. B., G. C. Menzies, and J. S. Wiseman. 1956. "New locality records for Texas bats." J. Mammal., 37(3):440.

Raun, G. G., and J. K. Baker. 1958. "Some observations of Texas cave bats." Southwestern Nat., 3:102-106.

Reddell, J. R. 1965. "A checklist of the cave fauna of Texas. I. The Invertebrata (exclusive of Insecta)." Tex. J. Sci., 17(2):143-187.

Reddell, J. R. 1966. "A checklist of the cave fauna of Texas. II. Insecta." Ibid, 18(1):25-56.
Reddell, J. R. 1967. "A checklist of the cave fauna of Texas. III. Vertebrata." Ibid. (In press)

Ref: St. Mary's S.S.
TSS files

KOCH CAVE (HONDO CREEK CAVE) Medina County (#18)

New Fountain 15' Quadrangle

Owner: George Koch

Description: The entrance to the cave is at the end of a long draw which ends abruptly at the cave. A sink about 10 feet in diameter to one side of the actual cave entrance connects to the draw immediately upstream from the cave entrance. The cave itself is entered by a hole among large rocks. A scramble down through breakdown for a total of about 25 feet admits one into a passage about 20 feet wide and 15 feet high which extends as a meandering dry stream passage for about 300 feet. There are large silt banks along the sides. At the end of the passage a small hole leads down and then horizontally over tightly packed silt for a few feet to a point where a drop of at least 15 feet occurs. Much digging is required, however, to reach this drop. The cave is formed in the Devil's River Formation. (See map, page 25)

History: The cave has been entered numerous times by the owner and by other local people. Holt (1951) refers to it as a "large solutional cavity or cave east of Hondo Creek, 8 miles north of Hondo" in the Austin chalk. The first recorded visit by cavers was made on July 18, 1959, by William H. Russell, Jim Baldauf, and Richard Badgett. It was visited on October 7, 1963, by James Reddell, David McKenzie, and John Porter, at which time a small biological collection was made. The cave was mapped on March 25, 1967, by A. Richard Smith, Susie Loving, Jerry Broadus, and Joseph Cepeda of the University of Texas Grotto.

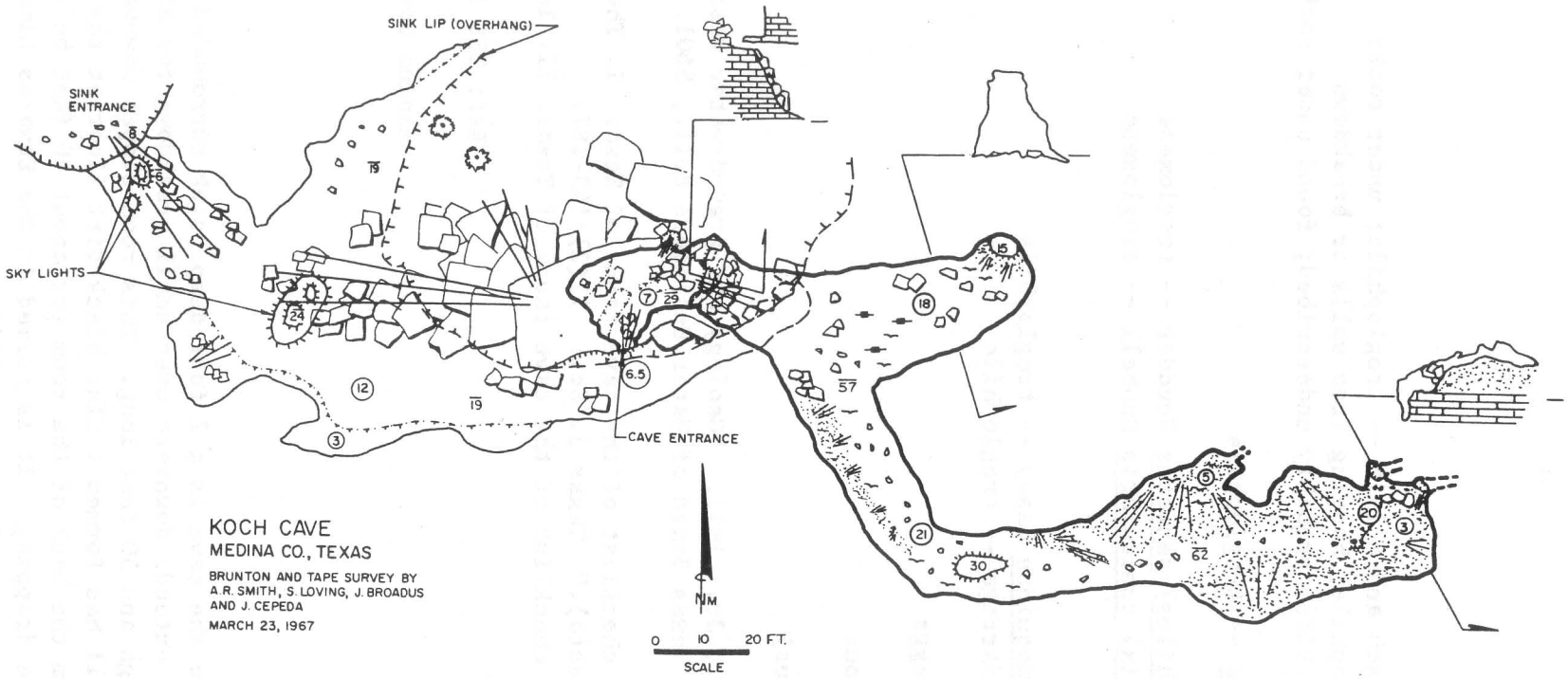
Biology: The cave contains several very interesting troglobitic and troglophilic species and should definitely be studied more carefully. What was apparently an eyed species of the carabid beetle, Rhadine sp., was observed but could not be captured. A faunal list follows:

Snails
- Helicodiscus eigenmanni Pilsbry -- troglophile

Isopods
- Protrichoniscus reddelli Vandel -- troglobite

Millipeds
- Eurymerodesmus sp. -- accidental
- Narceus americanus (Beauvois) -- accidental
- Cambala speobia (Chamberlin) -- troglobite

Centipedes
- Unidentified -- several species


SINK LIP (OVERHANG)
SINK ENTRANCE
SKY LIGHTS
CAVE ENTRANCE
KOCH CAVE
MEDINA CO., TEXAS
BRUNTON AND TAPE SURVEY BY
A.R. SMITH, S. LOVING, J. BROADUS
AND J. CEPEDA
MARCH 23, 1967
NM
0 10 20 FT.
SCALE

Spiders
Cicurina varians Gertsch and Mulaik -- troglophile; under rocks
Meioneta sp. -- troglophile; hanging from walls or breakdown
Nesticus sp. -- troglobite; probably undescribed; found under rocks
Collembola
Pseudosinella violenta -- troglophile
Crickets
Ceuthophilus (Ceuthophilus) secretus Scudder -- trogloxene
Ceuthophilus (Geotettix) cunicularis Hubbell -- trogloxene
Beetles
Staphylinidae
Belonuchus sp. nr. *moquinus* Casey -- troglophile
Stilicolina condei Jarrige -- troglophile
Buzzard
Unidentified -- with eggs
Bats
Unidentified -- numerous
Raccoons
Procyon lotor (Linnaeus)

Bibliography: Holt, C. L. R., Jr. 1951. "Geology and ground-water resources of Medina County, Texas." Texas Board of Water Engineers Bull., 5601. 278 pp. + 5 pls.
Reddell, J. R. 1965. "A checklist of the cave fauna of Texas. I. The Invertebrata (exclusive of Insecta)." Texas J. Sci., 17(2):143-187.
Reddell, J. R. 1966. "A checklist of the cave fauna of Texas. II. Insecta." Ibid, 18(1):25-56.

Ref: TSS files

LUTZ CAVE (LUTZ ANT CAVE) Medina County (#9)

Rio Medina 7½' Quadrangle

Owner: Felix Haby

Description: The entrance to the cave is a 2 foot deep sink surrounded by brush. A slope to the northeast extends downward over small breakdown for about 50 feet. to a room about 7 feet high and 50 feet long. This room slopes downward over breakdown except where fill has formed a flat black dirt floor at the lower end. A low passage extends from the back of the room for about 40 feet before ending. The cave is damp with some dripping. It is formed in the Edwards Limestone. An air current was noted flowing out in January 1966.

History: The cave was first reported by Elmer Alsmeyer, John Hofstetter, and Jim Bauer of St. Mary's University Speleological Society who explored the cave for a short distance but were unable to continue farther because of rattlesnakes which

could be heard but not located. A second trip was made on January 30, 1966, by Bill Russell, David McKenzie, and Carol Westmoreland.

Biology: Alsmeyer, Hofstetter, and Bauer reported the presence in the cave of cave crickets, ticks, rattlesnakes, and a few bats. A collection of invertebrates was made by Russell, McKenzie, and Westmoreland. They reported an item of great interest. The cave contained enormous numbers of ants in all parts of the cave which formed lines and were carrying several species of cave animal. A faunal list follows:

Millipeds
Cambala speobia (Chamberlin) -- troglobite
Spiders
Achaearanea porteri (Banks) -- troglophile
Cicurina varians Gertsch and Mulaik -- troglophile
Collembola
Pseudosinella violenta -- troglophile
Ants
Eciton (Labidus) coecum (Latreille) -- trogloxene; very numerous
Crickets
Unidentified -- trogloxene
Rattlesnakes
Crotalus sp. -- trogloxene
Bats
Unidentified

Bibliography: Reddell, J. R. 1967. "A checklist of the cave fauna of Texas. III. Vertebrata." Texas J. Sci. (In press)

Ref: St. Mary's U.S.S. TSS files

MARGUERITE CAVE (ROTHE BAD AIR CAVE) Medina County (#26)

Sabinal 15' Quadrangle

Owner: Laurence Rothe

Description: The entrance to the cave is a 2 foot long, 1½ foot wide opening in the bottom of a creek bed. After about 2 feet the entrance narrows to 8½ inches for several feet. It then opens to about 1½ feet and drops into a somewhat wider passage. The total entrance drop is 27 feet and equipment is necessary to negotiate it. From the bottom of the entrance drop a short climb of a few feet leads down into an upper level passage about 10 feet high and 5 feet wide. Here several pits lead down at a steep slope for 70 feet. These can be climbed with a hand line. At the bottom of these drops additional drops totally about 50 feet can be climbed easily. The upper level passage (above the 70 foot pits) continued unexplored. At the bottom of the last drop two passages extend. One leads back

to the left for a short distance before ending at a high dome which could be climbed but was left unchecked. The main passage extends as a passage averaging about 15 feet high, but with two crawls 2 to 3 feet high and with several domes up to 80 feet high. The passage is usually 2 to 3 feet wide, but in a few places is up to 15 feet wide. The high domes extend up to probable upper levels but remain unchecked. Several pits about 30 feet deep lead down to a lower level, but when these were entered in January 1961 the air would not support the flame of a carbide light and so they remain unexplored. About mid-way through the known part of the cave there occurs a drop of about 12 feet which would be easily climbable under normal conditions but in the cave here with its extremely poor air it was found to be very difficult. At the end of the explored and surveyed portion of the cave a small hole continues but will require digging to open up to an apparent high passage only a few feet away. (See map, page 29)

Meteorology: The entrance to the cave has only recently opened, which fact may account in part for the extremely poor air in the cave. Each successive trip to the cave has found the air slightly better, but until the entrance is enlarged or until a new one is excavated to initiate circulation no appreciable improvement can be expected. The last trip to the cave was made during very cold weather with a low pressure zone situated over the area. The air was still very bad. Matches and candles will not burn in the cave and carbide lamps frequently go out in the main passage beyond the second crawlway. Breathing was found to be difficult and the slightest exertion caused heavy breathing and required rest. After eight hours of surveying in the cave a return to the fresh air near the cave entrance initiated sudden and violent headaches which lasted for several hours. Everyone suffered from abnormally sore and aching joints. Exploration of the lower levels will be impossible unless the air improves considerable. It might be possible, however, to explore the upper levels above the 70 foot pits.

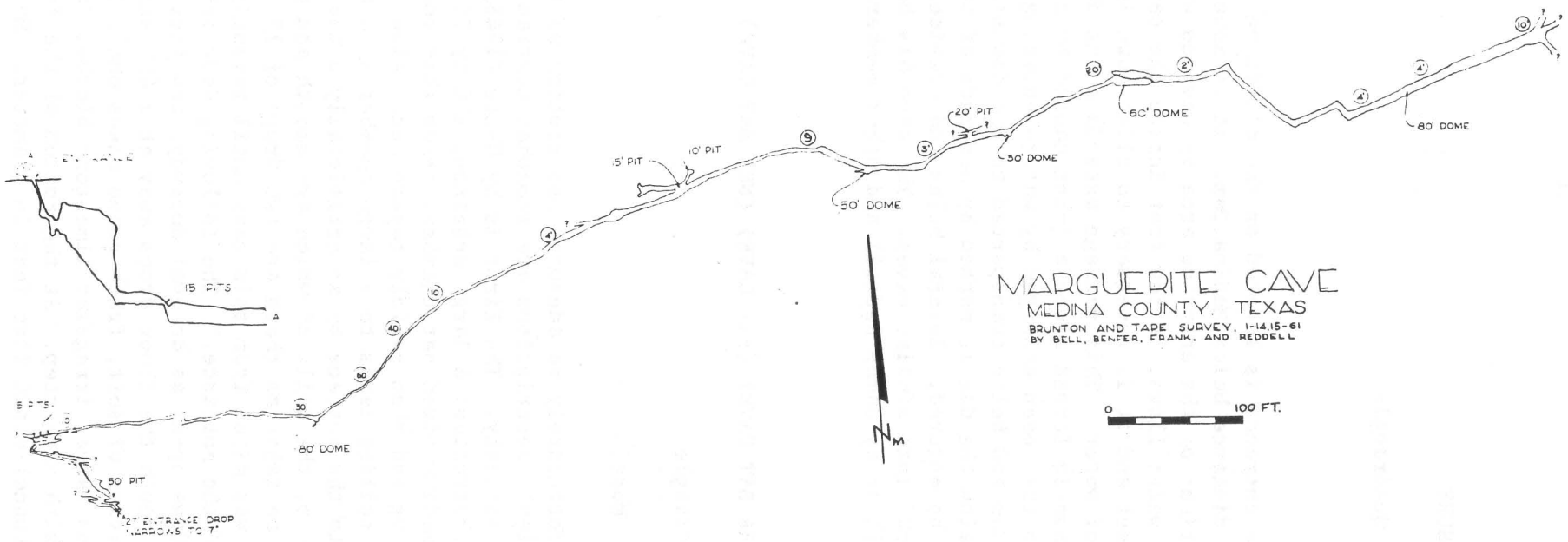
History: The entrance to the cave opened in the creek bed in 1959. A few months later members of the University of Texas Grotto were invited by the owner to investigate the cave. Bill Russell, Bob Benfer, and John Zuck visited the cave early in 1960 and after removing some loose rock at the entrance were able to enter it for a short distance, but lack of time and equipment prevented any extensive exploration. A return trip was made a few weeks later and 1,000 feet of passage was paced, but the poor air discouraged further exploration. In January 1961 James Reddell, Bud Frank, Graham Bell, and Bob Benfer of the University of Texas Grotto entered the cave and surveyed about 1400 feet of passage, but the poor air prevented completion of the exploration and mapping. A later trip was made into the cave by Bud Frank for purposes of collecting air samples (later lost).

Bibliography: Reddell, J. R. 1961. "News of the grottos: University of Texas." Texas Caver, 6(2):21.

Russell, W. H. 1961. "Bad air caves of Texas." Ibid, 6(10):112.

Smith, A. R. 1965. "Caves and the Balcones Fault Zone." Ibid, 10(8):158-160.

Ref: TSS files



MARGUERITE CAVE

MEDINA COUNTY, TEXAS

BRUNTON AND TAPE SURVEY, 1-14,15-61
BY BELL, BENFER, FRANK, AND REDDELL

MEDINA LAKE FISSURE — Medina County (#6)

Medina Lake 15' Quadrangle

Owner:

Description: The entrance is located on the cliffs on the east side of the Medina River a short distance below Medina Dam. It is about 10 feet wide and 15 feet high and the floor of the entrance area is covered with large blocks of breakdown through which water flows. A few feet inside the cave the passage narrows to about three feet and it is necessary to climb down into the stream, which contains about 2 feet of water. This passage extends about 30 feet before becoming too small. The cave is formed along a joint caused by slumping from the cliff face; this joint has then been enlarged by waters entering open joints and cavities above Medina Dam and being transported to the downstream side of the dam. The entire area below the dam is marked by hundreds of springs, but this is the only one which may be entered. Several holes and crevices above the cliff might be enlarged to lead into similar caves. The cave has been entered by many local people, as well as by James Reddell and other members of the University of Texas Grotto.

Ref: TSS files

NEY CAVE (BANDERA BAT CAVE) (BAT CAVE) (NEY BAT CAVE) — Medina County (#15)

Bandera 15' Quadrangle

Owner: Joseph S. Morris

Description: Unfortunately no adequate description of the cave is available. Since the only available descriptions are somewhat contradictory they are all quoted here in their entirety. The first is by White (1948), who writes, "The cave is peculiarily constructed: A large entrance, 150 by 75 feet, leads down a steep slope into a medium-sized bat chamber. From this room a passage leads about 50 feet to a spring and then rapidly tapers out. Also from the main bat chamber, a hole in the ceiling leads to a large chamber on a higher level. This chamber is connected to the surface by an artificially bored shaft 6 feet in diameter and 36 feet deep, the walls of which are smooth and offer no foothold. Climbing tackle should be taken as there are two drops of 15 feet as well as the 36-foot shaft. Guano was mined from this cave until recently and equipment is still to be seen around the entrance." The following description is by Stager (1948): "The mouth of Ney Cave opens as an oval doorway, ten feet high and twenty feet wide... From the cave mouth the floor drops away at a 45° angle for about 200 feet. The large accumulation of soft, fresh guano makes one's footing uncertain, since beneath it are numerous large, irregular limestone blocks. One sinks into the guano a foot or more with each step. At the bottom of the large ante-chamber the cavern narrows to a tunnel about five feet in diameter. My companion and I attempted to

enter the tunnel. Almost immediately we found our way blocked by countless thousands of bats which had been disturbed by our presence and which were pouring from the tunnel. According to Lester Gerdes, the cavern continues on for a considerable distance with numerous chambers which are all bat-filled except one which contains a fine clear pool of excellent drinking water. It is here that the 'guano miners' rest and refresh themselves during the guano removal operations which are necessarily limited to the winter months. The cavern has been breeched from the top of the hill with a deep shaft which penetrates into one of the large inner chambers, thus making the removal of guano much more expedient." Campbell (1925) describes the location and entrance to cave which he does not cite by name, but which is believed to be Ney Cave: "The cave is on the summit of a low, bald hill, and one of its mouths is a perfectly reamed hole in the solid rock, looking like a doodle-bug's home, the wide end being about 12 feet in diameter, the smaller end, or neck, about a foot and a half, and the depth about 10 feet." Holt (1956) writes, "The cave has four or more levels, the entrance room being approximately 30 by 180 feet in size and 90 feet high." It should be pointed out here that permission to enter the cave is very difficult to obtain and is given only to government agencies engaged in scientific research.

History: Ney Cave is one of the best known of Texas caves and has been visited by cavers, scientists, and local people for over one hundred years. It has been visited only seldom in recent years. The cave was mined for guano to be used in the manufacture of gunpowder during the Civil War. "The ruins of stone vats used for this purpose were at one time to be seen near a cave fifteen miles south of Bandera, probably Ney Cave in Medina County. J. H. Hunter stated that he saw the remains of these vats and that 'Two or three of the stone sides were lying scattered about. As I remember, these were sides or ends of vats. Each was about three feet long and grooved at the end to fit four corners. Whether they were cemented after being fitted jointly together I do not know. The vats were probably two feet wide by about three feet long, and there must have been several of them. There was no question about the use of the vats, in extracting saltpeter from the guano from the great cave which is in the mountain side nearby. Amasa Clark, now deceased, who was there during the Civil War, told me that saltpeter was obtained there for the making of gunpowder for the Confederate forces.'" (Meador, 1964) In a discussion of Texas guano deposits, Thrall (1879) writes, "Another immense deposit exists in a cave eight miles south-west of Bandera." Another early reference to what is certainly Ney Cave is that by Liddle (1918), who writes, "Commercial deposits of guano are found in the bat caves two miles southwest of the King ranch-house in the northern part of the county. These caves are in the Glenrose limestone and are of considerable size. The caves are cleaned every six months or once a year, depending on the rate of accumulation of the guano. The mineral is hauled to Hondo by mule team, where it is loaded on cars. The principal expense connected with the industry is the expense of hauling over the rough road from the cave to Hondo. The distance is approximately twenty miles." Campbell (1925) also briefly discusses the cave, and conducted an early experiment in bat homing there. He took 2,000 bats from the cave

and released them 30 miles away. He failed to capture any of his marked bats, but he was certain that he saw some entering the cave. It is unfortunate that more details of this early history are not known. The next reference to the cave is that by Stager (1948) who discusses a trip that he made to the cave on August 5, 1938. He mentions that the guano served as a source of revenue for the Ney family for many generations. At the time of his visit the cave was owned by Ben Cerdes. Stager made collections of invertebrates and bats in the cave, as well as made observations on the predation by falcons on the bats at the cave entrance. On September 10 and 14, 1940, Glen M. Kohls and William Jellison visited the cave and made collections in it. They were followed in November and December 1943 by Jack C. Couffer who also made collections and observations on the cave. Couffer was associated with Dr. Lytle Adams who headed the secret, but ill-fated, Project X-Ray. In conjunction with this work the U.S. Navy leased the cave in 1943 and Marines from Corpus Christi were assigned to guard the screened entrance. An account of this fascinating project is given my Mohr (1948). The project was abruptly abandoned in October 1944. Denny G. Constantine visited the cave on August 15, 1944, and May 1, 1952, and bats were collected for use in a study of the effects of ammonia on bleaching of bat hair. In June, July, and August Fred R. Cagle made observations on the bat colony. Sprunt visited the cave during the summers of 1949 and 1950 and made further observations on the bat colony and on predation by hawks. D. K. Jameson on July 24, 1953, and R. E. Ryckman on July 13, 1954, visited the cave and made collections of invertebrates in it. On May 1, 1954, Elmer Alsmeyer and Joe Ainsworth led a group from the Biology Club of Our Lady of the Lake College and St. Mary's University Speleological Society to the cave. The period from 1954 to 1958 saw extensive use of the cave as a source of bats for use in bat banding projects by R.B. Eads and his associates of the Texas Department of Public Health and by R.B. Davis, C.F. Herreid II, and H.L. Short of Texas A & M College. Trips were made bi-monthly by Davis, Herreid, and Short during 1957 and 1958. Since 1958 the cave has been occasionally visited by scientists, including Robert W. Mitchell, for purposes of observing the bat colony.

Meteorology: As in all of the large bat caves the temperature of the air is quite variable during the day and the season. The ammonia concentration during the height of the bat colony may be high enough to be almost intolerable. The only meteorological information available on Ney Cave, however, are a few temperatures and two measurements of relative humidity. The temperature of the air on July 13, 1954, was 86°F inside the entrance and 91°F in the central portion of the cave (Ryckman, 1956). On September 10, 1940, Glen Kohls recorded the air temperature and relative humidity in a side compartment as 84°F and 84 per cent. In May the temperature in the lower bat chamber was 70°F and the relative humidity was 77 per cent. (Constantine, 1958) Temperatures taken in June, July, and August 1949 showed the air temperature to vary from 23.2°C to 34.2°C. The temperature was highest when the main bat flight was leaving the cave. The temperature of the rock surface just under masses of young bats was repeatedly recorded as 38°C (Cagle, 1950).

Biology: Ney Cave, because of its enormous bat colony, has attracted considerable attention by biologists. As a result it is possible here to summarize only briefly some of the more interesting aspects of the research which has been conducted at the cave. No recent collections have been made in the cave.

Invertebrates: The invertebrate fauna of the cave is typically that of any large Central Texas bat cave, with the exception of the presence of the giant bedbug, Primicimex cavernis Barber. This species was originally collected in 1939 by Kenneth Stager. It was again collected in 1940 by Kohls and Jellison and on July 13, 1954, by Raymond E. Ryckman. The species is known only from Ney Cave and from a bat cave in Guatemala. Ryckman (1956) made several interesting observations on this bug, which attains a total length of 10 mm. "Primicimex, the largest known bedbug, was readily collected on the floor and walls of the cave; eggs and immature instars were usually found in small crevices in the rock walls and ceiling of the cave. After considerable effort the author was rewarded by observing the feeding pattern of Primicimex on bats clinging to the cave ceiling and later by bats anesthetized with sodium nembutal and exposed to a colony of recently collected bedbugs. This giant bedbug repeatedly strikes the prospective host with its front legs and proboscis until no twitching or response is registered by the bat; at this point the bedbug lunges forward and firmly clamps its forelegs in a vise-like grip on a relatively small prominence of the bat's anatomy, that is, a section of the folded wing or leg. At the same time as the forelegs are brought into action the proboscis is also brought down on the host with considerable force at which time feeding takes place. The behavior pattern of this bug immediately prior to and during feeding is most unusual and interesting to observe." The tick, Ornithodoros stageri Cooley and Kohls, was originally collected in the cave by Kenneth E. Stager on August 5, 1938. It was found in the summer of 1940 by Kohls and Jellison on guano on top of large rocks on the cave floor. The tick, Antricola coprophila (McIntosh), was taken from guano in the deeper recesses of the cave by Kohls and Jellison in 1940. On August 27, 1954, Eads encountered large numbers of this species. They attacked him viciously and their bites left large welts which lasted for several days. David K. Jameson on July 24, 1953, collected 26 specimens of bat, Tadarida brasiliensis mexicana, from the cave and studied the parasites found on and in them. He removed about 33 mites, Ichoronyssus robustipes Ewing, from the wings, interfemoral membrane, and body; many specimens of the mite, Acanthophrhirius longa (Ewing), from the hair inside the ears; and 29 nematodes, Anoplostrongylus delicatus Schwartz, from the stomach. Kohls and Jellison report two species of streblid fly from bats in the cave, Trichobius major Coquillett and T. sphaeronotus Jobling. They also found the flea, Sternopsylla texana (Fox), to be present on bats in the cave. In 1944 J. C. Couffer collected the flea, Rhynchopsyllus pulex Haller, from bats in the cave. The dermestid beetle, Dermestes carnivorus F., is extremely abundant in the guano in the cave. It feeds on dead and fallen bats. Ryckman reports that a bat killed and placed on the cave floor was stripped of skin and internal tissues by dermestids when he returned six hours later. The only other beetle recorded from the cave is the trogid, Trox suberosus F. Doubtless careful study will reveal other species.

Two spiders, Achaearanea porteri (Banks) and the black-widow, Latrodectus mactans F., have been taken in the cave. Pseudoscorpions reported by Ryckman had not been identified at the time of his writing.

Bats: Three species of bat have been identified from Ney Cave. Myotis velifer incautus and Mormoops megalophylla megalophylla occur in small numbers, while Tadarida brasiliensis mexicana is the principal species present. Sprunt (1950) estimated the Tadarida population to be from 30 to 30 million, but Davis, Herreid, and Short (1962) estimate it to be about 10 million. Stager described a new species, Tadarida texana, from the cave. This has, however, since been shown to be identical with T. brasiliensis mexicana and may represent specimens whose hair has been bleached by the ammonia-laden cave atmosphere, as pointed out by Constantine (1958). The bat colony has been the subject of study by Cagle (1950), Sprunt (1950), Eads ans associates during 1954-1955, and by Davis, Herreid, and Short during 1957-1958. Banding operations were conducted in the cave by the last two groups. The papers by Eads, Wiseman, and Menzies (1957) and by Davis, Herreid, and Short (1962) are of general interest for any study of the Mexican free-tailed bat in Texas and include observations of the colony in Ney Cave. Bats arrive at the cave in March or April and leave in September or October. Bats banded in northern Mexico, as well as in other Texas bat caves, have been recovered in Ney Cave. Sprunt (1950) has made an interesting study of the time and nature of the evening bat flight.

Predators on bats: In May 1954 a free-tailed bat was observed being consumed by a coachwhip snake at the cave entrance. On another occasion a similar snake was seen but disappeared into a crevice. (Eads, Wiseman, Grimes, and Menzies, 1955) Jack C. Couffer in November and December 1943 observed a large hog-nosed skunk, Conepatus mesoleucus mearnsii, in the cave. This species, "lived in a shallow hole about 40 yards inside the mouth of the cave and could usually be found there during the day." (Constantine, 1948) It is certainly an occasional predator on bats, as is a family of raccoons, Procyon lotor, which inhabits the cave as reported by Davis, Herreid, and Short (1962). The most distinctive of the predators at Ney Cave, however, is the hawk. Stager (1941, 1948) first recorded predation by the duck hawk, Falco peregrinus subsp., at the cave. Sprunt (1950, 1951) observed that hawks appeared each evening at the cave shortly before the bats emerged. He identified four species as predators: the duck hawk (Falco peregrinus anatum), the sharp-shinned hawk (Accipiter velox), Cooper's hawk (Accipiter cooperi), and the red-tailed hawk (Buteo jamaicensis).

Other vertebrates: Davis, Herreid, and Short (1962) report the presence of deer mice (Peromyscus maniculatus) as much as 20 yards inside the cave. They also report three pair of rock wrens (Salpinctes obsoletus) nesting in small holes in the ceiling within 20 feet of the entrance in the summer of 1958. Phoebes (Sayornis saya) were also observed to nest in the front of the cave.

Faunal list:

Trematoda

Urotrematidae sp. -- taken from Tadarida brasiliensis mexicana.

Nematoda
Molinostrongylus delicatus (Schwartz) -- taken from *Tadarida brasiliensis mexicana*
Pseudoscorpions
Unidentified -- probably troglophile
Spiders
Achaearanea porteri (Banks) -- troglophile
Latrodectus mactans F. -- trogloxene
Mites
Ichoronyssus robustipes Ewing -- taken from *T. brasiliensis mexicana*.
Acanthophrhirius longa (Ewing) -- taken from *T. brasiliensis mexicana*.
Ticks
Antricola coprophila (McIntosh) -- troglophile or trogloxene
Ornithodoros stageri Cooley and Kohls -- troglophile or trogloxene
Hemiptera
Primicimex cavernis Barber -- troglophile
Fleas
Rhynchopsyllus pulex Haller -- trogloxene
Sternopsylla texana (Fox) -- trogloxene
Flies
Trichobius major Coquillett -- troglophile or trogloxene
Trichobius sphaeronotus Jobling -- troglophile or trogloxene
Beetles
Dermestes carnivorus F. -- troglophile
Trox suberosus F. -- trogloxene
Birds
Vulture -- trogloxene
Salpinctes obsoletus (Say) -- trogloxene
Sayornis saya (Bonaparte) -- trogloxene
Snakes
Colubridae -- coachwhip
Bats
Mormoops megalophylla megalophylla Peters -- trogloxene
Myotis velifer incautus (Allen) -- trogloxene
Tadarida brasiliensis mexicana (Saussure) -- trogloxene
Mice
Peromyscus maniculatus (Wagner) -- trogloxene
Raccoon
Procyon lotor (Linnaeus) -- trogloxene
Skunk
Conepatus mesoleucus mearnsii Merriam -- trogloxene

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Ref: TSS files

QUIHI CREEK CAVE NO. 1 — Medina County (#10)

Bandera 15' Quadrangle

Owner: H.H. Saathoff, Jr.

Description: The entrance to the cave is a small opening in a bluff overlooking a branch of Main Quihi Creek. A crawlway extends back into the bluff for about 75 feet. There are a few small dry formations and at one point it is possible to stand. It was explored on March 5, 1961, by James Reddell and Philip Russell.

Ref: TSS files

QUIHI CREEK CAVE NO. 2 — Medina County (#11)

Bandera 15' Quadrangle

Owner: H.H. Saathoff, Jr.

Description: A crawl-in entrance a few feet from the above creek extends back as a crawl for 25 feet before ending. It is dry and there are a few small dead formations. It was explored on March 5, 1961, by James Reddell and Philip Russell.

Ref: TSS files

RATTLESNAKE CAVE — Medina County (#16)

Bandera 15' Quadrangle

Owner: ?Joseph S. Morris

Description: The only information available on this cave is that by White (1948): "A small, single chamber cavern about 200 yards down the hillside from Ney Cave is interesting principally for the somewhat lurid legends surrounding it. The cave was, reputedly, an old Spanish mine, probably silver, possibly gold. And several earthen crucibles still to be seen beside a nearby creek are supposed to have played a part in the handling of the ore. Careful inspection on the part of the writer, whose particular interest happens to be prospecting, revealed no signs of anything which appeared to him as having been a mining operation. One boulder, apparently in no danger of falling, has been timbered up and someone has chipped away a rather large quantity of an unusually thick travertine encrustation, but this writer found no evidence of mining or mineralization of economic interest."

Biology: Constantine (1958) reports that an immature individual of the old man bat, Mormoops megalophylla senicula (Rehn), was collected in this cave on October 29, 1943, by Jack C. Couffer.

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Ref: TSS files

ROTHE BUZZARD CAVE — Medina County (#23)

Sabinal 15' Quadrangle

Owner: Laurence Rothe

Description: A 15 foot entrance sink leads to a small crawlway in which buzzards roost. A crawlway extends 15 feet to a 6 inch in diameter hole. The cave has been explored by Bill Russell and other members of the University of Texas Grotto.

Ref: TSS files

ROTHE FISSURE CAVE — Medina County (#24)

Sabinal 15' Quadrangle

Owner: Laurence Rothe

Description: A small crawlway leads to a fissure about 1 foot wide, 25 feet long, and 20 feet deep. No passages lead out from the bottom of the fissure. It has been explored by Bill Russell and other members of the University of Texas Grotto.

Ref: TSS files

ROTHE GOOD AIR CAVE — Medina County (#22)

Sabinal 15' Quadrangle

Owner: Laurence Rothe (?)

Description: This cave is a sink at least 20 feet deep. No details are available. It was reported and explored by Bud Frank.

Ref: TSS files

ROTHE TRASH CAVE — Medina County (#25)

Sabinal 15' Quadrangle

Owner: Laurence Rothe

Description: This is a 30 foot deep sink with very little horizontal extent. It has been used as a trash dump. When explored by Bill Russell and other University of Texas Grotto members a large black snake was seen in it.

Ref: TSS files

SECOND THOUGHT CAVE — Medina County (#13)

New Fountain 15' Quadrangle

Owner: M.M. Smith

Description: The entrance to this cave is a hole among large blocks of breakdown. A slope leads down for about 15 feet at which point it leads off and down into a complex area of low rooms and passages. It was explored by David McKenzie on October 17, 1964. The owner reported that he has recently filled it with trash, but this has not been verified.

Ref: TSS files

SIXTY MINUTE CAVE — Medina County (#12)

New Fountain 15' Quadrangle

Owner: M.M. Smith

Description: The entrance to this cave is in a broad shallow sink. A three foot in diameter hole drops about 15 feet onto a pile of debris and trash. From here a narrow crevice leads down for an additional 15 feet onto a large pile of trash. It is barely possible to squeeze over this debris at the end of the crevice and to enter a room about 10 feet high and 15 feet in diameter. At one side of the room breakdown slopes up to meet the ceiling. On the other side a drop of 20 feet requires equipment. From the bottom of this drop a passage extends for about 150 feet at which point exploration ceased. The room contains some formations and a few bats. The cave was explored by David McKenzie and James Reddell on October 17, 1964.

Biology: A small collection of invertebrates was made in the cave in 1964. A faunal list follows:

Snails

Polygyra texasiana (Moricand) -- accidental; found near entrance on trash

Millipeds

Cambala speobia (Chamberlin) -- troglobite

Speodesmus sp. -- troglobite; possibly undescribed

Symphyla -- unidentified; probably accidental

Collembola

Pseudosinella violenta -- troglophile

Crickets

Ceuthophilus (Ceuthophilus) sp. -- trogloxene; probably undescribed

Ceuthophilus (Ceuthophilus) secretus Scudder -- trogloxene

Beetles

Bradycellus (Triliarthrus) sp. -- troglophile

Rhadine sp. -- elytra of a troglobitic seen; no live specimens found

Isopods

Trichoniscidae - unidentified -- troglobite

Mites - unidentified

Frog

Syrrhophus marnocki Cope -- trogloxene

Bats

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Reddell, J.R. 1967. "A checklist of the cave fauna of Texas. III. Vertebrata." Ibid. (In press)

Ref: TSS files

SPANISH DAGGER CAVE — Medina County (#14)

New Fountain 15' Quadrangle

Owner: Medina County

Description: The entrance to this cave is located a few feet from a county road and is a hole about two feet in diameter. It drops about five feet to a pile of rocks. Digging at the bottom of this hole led into a wide one foot high passage which becomes too small after about 40 feet. It was explored on October 17, 1964, by David McKenzie. The floor throughout is floored with small rocks. The name is derived from Spanish dagger grass growing at the entrance. An eyed Rhadine sp. was observed but could not be caught.

Ref: TSS files

SUPRISE CAVE Medina County (#3)

Medina Lake 15' Quadrangle

Owner: State of Texas

Description: The entrance to this cave was uncovered during construction on a new bridge. It is a circular hole about 3 feet in diameter and drops 20 feet to a ledge which encircles the east and south sides of a room about 25 feet wide and 40 feet long. At the entrance an additional drop of 20 feet leads to the east end of this room, from which a slope leads up to the west. A passage to the south leads down and into a low passage which soon forms a T-intersection with another passage. This passage extends to the right for about 40 feet before ending. To the left it extends back for about 40 feet before lowering to one foot and ending in a silt fill. Immediately before the end a squeeze on the left leads up into an 18 foot high dead-end dome. The second passage from the entrance room extends as a passage 4 to 10 feet high for about 160 feet. This passage is rather narrow and in places near the end it is necessary to squeeze through formations. At the end it becomes too narrow to negotiate. The walls throughout this area are covered with cave coral. The cave is rather moist. (See map, page 43)

History: The cave has been entered a number of times by cavers and local people. The date of the opening of the entrance is not known. The first recorded exploration by cavers was made on October 16, 1960, by Orion Knox, Preston Knodell, Leonard Clark, and Al Brandt of the St. Mary's University Speleological Society. This was followed on October 22, 1960, by a trip by Max Collings, Al Brandt, Leonard Clark, Orion Knox, and six novice cavers. At that time the cave was mapped. The cave was visited on February 15, 1964, by James Reddell and David McKenzie, at which time a small collection of invertebrates was made. The only other recorded trip was made on August 11, 1964, by Frank Jasek and Bob Wood of the Huaco Cavers Society.

Biology: The cave, in general, contains a sparse but interesting fauna. This is what might be expected considering its recent opening to the surface. Food is generally scarce. Of the species known from the cave five of seven are troglobites. The following species are known:

Isopods

Protrichoniscus reddelli Vandel -- troglobite

Millipeds

Speodesmus sp. -- troglobite; probably undescribed

Spiders

Cicurina sp. -- troglobite; probably undescribed

Nesticus sp. -- troglobite; probably undescribed

Thysanura

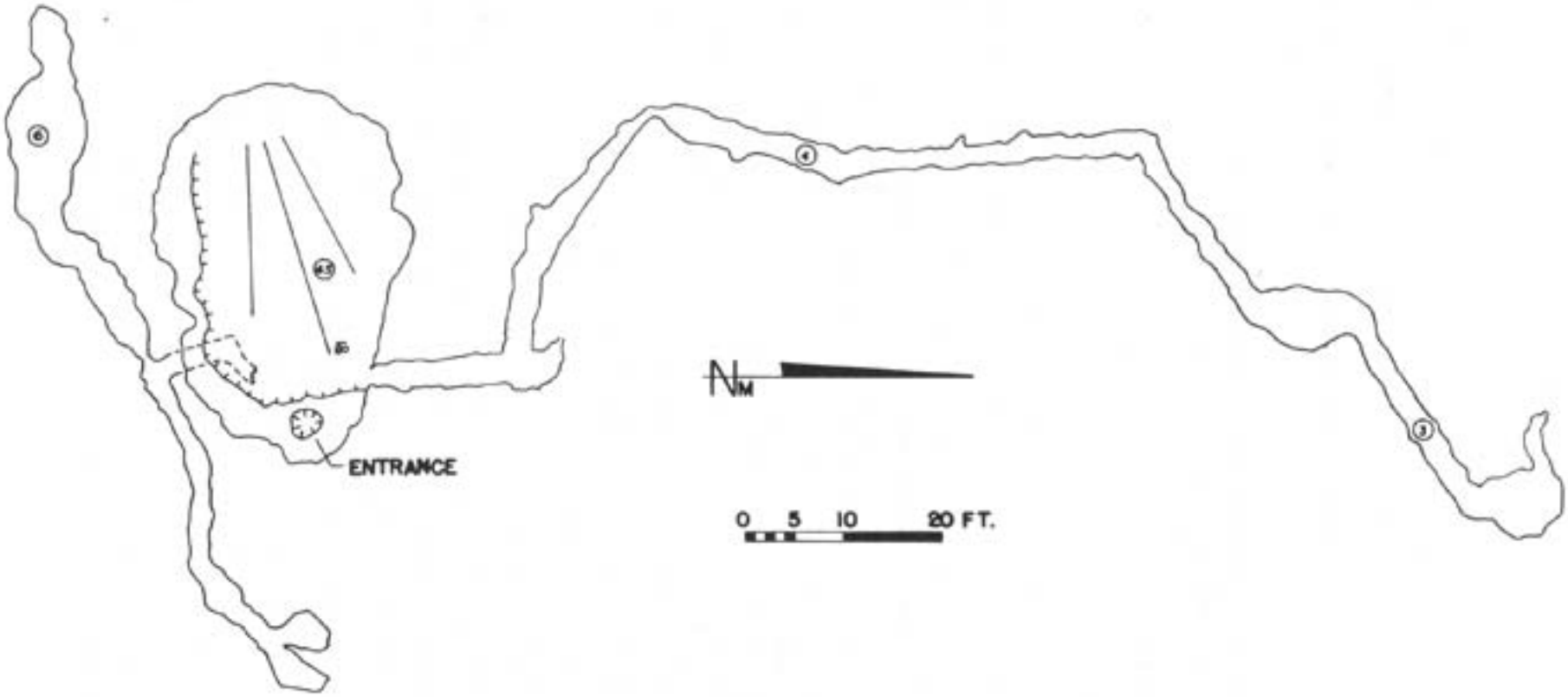
Nicoletia texensis Ulrich -- troglobite

Collembola

Pseudosinella violenta -- troglophile

Crickets

Ceuthophilus (Ceuthophilus) sp. -- trogloxene; probably undescribed



SUPRISE CAVE

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COMPASS & TAPE SURVEY

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Bibliography: Reddell, J.R. 1965. "A checklist of the cave fauna of Texas. I. The Invertebrata (exclusive of Insecta)." Tex. J. Sci., 17(2):143-187.
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Ref: TSS files

VALDINA FARMS SINKHOLE (DONAHOE CAVE) (WOODARD CAVE) (VALDINA SINK) (VAL VERDE FARMS SINK HOLE) Medina County (#19)

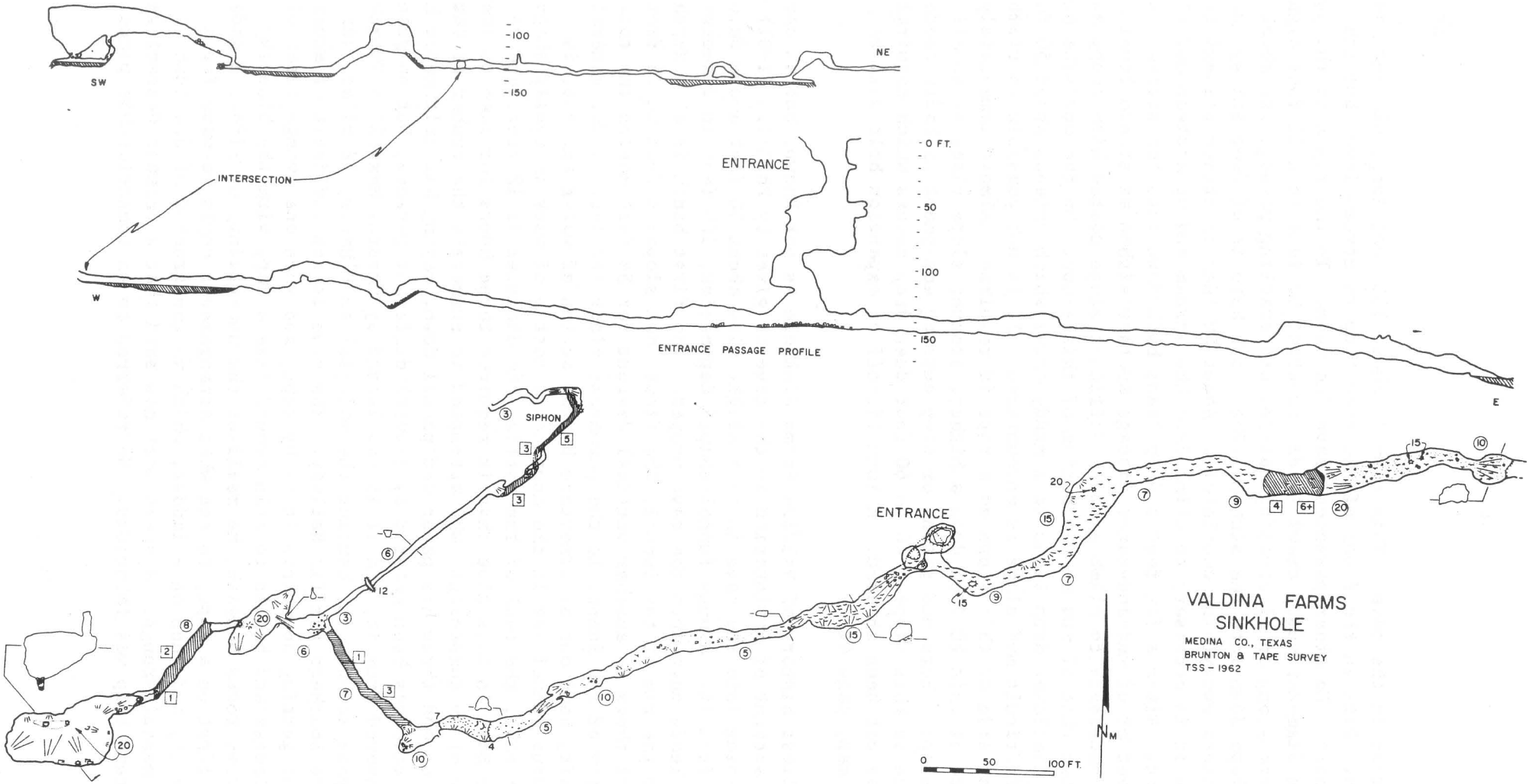
Tarpley 15' Quadrangle

Owner: Robert Woodward

Description: The entrance to the cave lies along the gently sloping side of a hill a short distance from and above Seco Creek. During heavy rains some water runs into the cave. The entrance at the top is about 50 feet in diameter and drops in stair-step fashion to a point where it is 30 feet in diameter. Here a drop of 90 feet occurs. About 50 feet down the drop enlarges to form a room about 40 feet in diameter. A pool up to 4 feet deep lies at the bottom of the drop. About 20 feet from the entrance drop a second drop occurs. This is 60 feet deep and drops to one side of a southeast-northwest trending passage floored with guano and breakdown. To the east the passage extends as a 7 to 20 foot high passage for about 325 feet where a guano slope leads down into a 4 to 6+ deep pool of guano and water. During the summer when the bats are present this part of the cave is extremely unpleasant with flies present by the thousands and a high concentration of ammonia. It is possible to cross this pool by clinging to small formations and projections along the wall. On the opposite side of the pool a 20 foot high dome room is found in which a colony of bats reside. About 200 feet beyond the room a second deep pool occurs. This pool, however, is over six feet deep and clearance is so low along the sides as to force the explorer to remain in the middle of the passage where a ceiling slot provides a small breathing space. Lack of flotation gear on the mapping and subsequent trips to the cave has prevented exploration of this promising passage. From the entrance a guano-floored passage extends upstream for about 400 feet to a 4 foot high ledge. On the opposite side of this ledge vertical drops of 5 and 7 feet occur. Shortly beyond the 7 foot drop a pool of 1 to 3 foot deep water is encountered. This water is beyond the bat colony and is, therefore, comparatively clear. It is inhabited by blind salamanders. The pool is about 100 feet long and is fed by two small streams which emerge from two passages encountered at the end of the pool. To the left a tiny stream is followed up a small slope where it emerges from gravel. Beyond this point a steep slope leads up into an oval-shaped room about 70 feet long, 20 feet wide, and 20 feet high. On the opposite side from the entrance to the room a pit drops steeply down into a low stream passage with 1 to 2 feet of water and much mud. This passage ends in breakdown, from which the stream emerges, but immediately before its end a dome rises through unstable breakdown into one end

of the largest room in the cave. This room is about 100 feet long, 40 feet wide, and 20 feet high. Pits in the floor of the room drop to stream level but the stream here siphons. No other passages leave the room. To the right at the junction a 3 foot in diameter muddy crawl leads for about 50 feet to a 12 foot high dome and from here along an alternating walking and crawling passage for about 250 feet to a slope down into the stream. The floor here is of deep sticky mud which rapidly covers everything completely. About 50 feet of stream passage lead to a point where it is necessary to climb from the stream and up a steep mud slope for about 10 feet. After a few feet a drop leads back down into the stream. After 60 additional feet of of mud-and-water passage another siphon at stream level occurs and it is again necessary to climb a steep difficult slope coated with soupy mud. There is about two feet of mud at the bottom of this slope. On the opposite side of this slope a shallower drop leads to a muddy crawl which extends about 50 feet before a third difficult mud slope is encountered. It is not possible to climb back up the other side of this slope so a rope is required. Almost immediately on the other side of this 20 foot drop a higher, steeper slope rises as an all but impossible slope. Here mud pitons or step-cutting equipment is badly needed. On the other side of this slope a 40 to 60 foot deep drop occurs which requires equipment and has not been entered. A long tie-off or expansion bolt will be necessary. (See map, page 46)

History: The earliest history of Valdina Farms Sinkhole is not known, but an early description and account of exploration in the cave is given by Phillips (1901) who writes, "The opening into the cave is on a slight rise about 30 feet above Secos Creek 200 yards from it. A huge funnel-shaped depression, 100 feet in diameter at the surface, leads down into the cave proper. The first bench is at a depth of 100 feet from the rim of the funnel, the floor then slopes 6 feet in 25 feet and at this point there is another vertical descent for 54 feet making the total depth from the rim of the funnel to the permanent floor 160 feet... The general shape of the shaft, hewn out of limestone by the action of water and air, is that of an enormous funnel set in the mouth of a bottle of very irregular shape. At its narrowest part, the neck of the bottle, the diameter is 12 feet, and so numerous are the bats in this cave that it requires three hours for them to emerge through it. One of my companions, who attempted to enumerate the number of bats, finally gave it up and threw his paper and pencil down, saying his arithmetic had 'gin out.' The cave has been entered by several different persons, but no guano has ever been removed from it, and it is now leased by Messrs. Maxwell & Thaxton, Austin, who propose to work it, hauling the material to D'Hanis, 16 miles, and shipping over the Southern Pacific Railway. The cave is now difficult of access. The only means of getting down into it is by rope, and when one swings clear of the projecting ledges and begins to spin around like a top, with the blue sky above and the brown rocks beneath, he realizes the uncertainty of life. I made two trips down, first on a rope, to see what arrangements could be made for a comfortable descent, and then on a ladder, which we constructed of 3/4-inch manila rope and mesquit-rungs. A great poet has said that a certain descent was easy but the return trip was laborious. He referred to an unmentionable place



VALDINA FARMS SINKHOLE

MEDINA CO., TEXAS
BRUNTON & TAPE SURVEY
TSS - 1962

but might have had this cave in his mind. On the first trip I spun around at the end of the rope until I was glad to land even upon a skunk whose defunct body was in perfect harmony with his malodorous life. It was a large place into which he had fallen, but he filled it completely and could have filled several acres. There was another one 60 feet lower, and together they made a pair hard to beat. What they left to be desired in the way of odor was more than supplied by the bats... It is difficult to estimate the amount of guano in a place such as this. The floor is of irregular shape, and many large fragments of stone that have dropped from the roof are to be met with, besides smaller pieces that have become imbedded in the mass. What appears to be a bed of guano of considerable thickness is found, on investigation, to be a layer of from 1 to 6 inches in thickness covering the rock. A few feet from this point the guano may be 4 or 5 feet deep, completely filling the depressions in the floor. In some places it is banked up in mounds, or spread out evenly on the floor, where it is comparatively level. One can walk for 1,000 feet without stepping off from the guano, and can wade in it up to his knees. Most of the material in this cave is dry, but towards the northeast end it becomes soft and is evidently of more recent origin. When the bats become tired of one roosting place they go to another. Some of the smaller chambers opening out from the main cavern do not seem to have been used by the bats at all, for there is no guano in them nor any indication that they were ever used by the bats." A careful cross section and rough plan of the cave are included in this same report. The cave was next investigated by Dr. Lytle Adams during Project X-Ray. In November and agin on December 5, 1943, one of his assistants, Jack C. Couffer, entered the cave and made a collection of the old man bat, Mormoops megalophylla megalophylla. Patrick J. White next visited the cave at some time prior to 1948, but was unable to negotiate the last 20 feet of the entrance drop because of lack of equipment. A water sample was taken on June 1, 1952, and was analyzed by the Texas Board of Water Engineers. Unfortunately nothing is known of the history of guano mining in the cave, but it is doubted that any extensive mining was ever conducted. The remains of cables, ladders, and an elevator are scattered in and about the cave entrance. The first recent trip to the cave was made on January 25, 1957, when a group from the University of Texas Grotto visited it. This group was made up of James K. Baker, Dr. Richard Davis, Dave Hannah, Charles Whiteman, and Bill Helmer. A second trip, consisting of Baker, Helmer, Davis, Larry Littlefield, Fred Berner, Dave Kyser, and Kip Herreid, was made to the cave on February 9, 1957. Helmer's account of these trips is not generally available and so is partially reprinted here. "Only about 1000 feet of the cave was explored on the first trip to the cave by Baker, Davis, Hannah, Whiteman and Helmer, due to lack of time. At that time it was found to consist primarily of two oppositely directed passages averaging about 10 x 10, both of which developed into water tunnels. This part of the cave was wet and muddy, with a great deal of guano. Some crawling and climbing between muddy breakdown was necessary. A second trip returned to completely explore the cave during the first week of February. Baker, Helmer, Dr. Davis, Larry Littlefield, Fred Berner, Dave Kyser and Kip Herreid made the trip. Herreid is a graduate student from Johns Hopkins University working with Dr. Davis in his bat studies. The exploration began after the exhausting 150 foot climb into the cave was completed, but soon bogged down. After wading through waist deep water, the spelunkers found

themselves in a series of small-diameter tunnels, some half-filled with water, and all deep in thick red rubber cement resembling red clay. Several hours were spent in covering around 600 feet and the exploration was finally abandoned, again due to lack of time, without finding any sign of an end to either the cave or the mud." (Helmer, 1957) A third trip to the cave was made in May 1957. Floyd E. Potter, Jr., visited the cave early in January 1959, and agin with Gerald G. Raun on January 31, 1959. On this last trip observations on a mass die-off of bats were made. Probably in 1960 Dr. Bassett Maguire of the University of Texas visited the cave and collected ostracods for use in physiological experiments. The cave was mapped by James Reddell, David McKenzie, and Terry Raines in 1964. On January 12, 1964, James Reddell, Keith Garrett, John Porter, and David McKenzie visited the cave and made a series of biological collections. In 1966 and 1967 a few additional trips have been made to the cave by various members of the University of Texas Grotto and by the staff of Texas Technological College. These trips have included ones by Bill Russell, Keith Garrett, James P. Bogart, and Robert W. Mitchell. It should be pointed out here that permission to enter the cave is restricted to people known by the owner to be interested in conducted scientific research and must be obtained in advance.

Hydrology: An analysis of water taken from the cave has been made and is as follows:

Silica.....13	B.....0.18
Iron.....--	Total dissolved solids.....610
Calcium.....152	Hardness as $CaCO_3$.....408
Magnesium.....7.0	F.....---
K + Na.....14	NO_3.....212
HCO_3.....269	%Na.....7
SO_4.....33	pH.....7.5
Cl.....8.0	

The cave water is double calcium, a little low in Mg, about triple K + Na, average in HCO_3, 2 to 3 times SO_4, average Cl, 40 times NO_3, 2½ times total dissolved solids, double hardness of average "Edwards" water in the vicinity of the cave. This indicates that the sample was taken from the guano pool.

Biology: Valdina Farms Sinkhole contains an exceptionally rich and varied fauna. Its possession of a large bat colony and a complex of bat-free stream passages provides a diversity of habitat not to be found in any of the other large bat caves. The fauna associated with the bat colony is essentially unstudied and careful summer collections will double the faunal list. The invertebrate fauna includes several troglobites of interest, including new species of spider and opilionid. The troglophilic pselaphid beetle, Hamotus sp., is of interest in that there are only two described species in the United States and this appears to represent a new species. What may be troglobitic aquatic mites have also been taken in the guano pool, but these remain unstudied. Dr. Bassett Maguire (1960, 1961) has studied the ostracod, Candona sp., and has found that it will die within a few days if exposed to a flux of visible light of an intensity of about 1/20th of normal daylight. This is one of the few physiological experiments which have ever been conducted on a Texas cave animal. The only other invertebrate study in the

cave is the collection by Reddell, McKenzie, Garrett, and Porter. There are, on the other hand, rather careful observations available on the bat colony. Three species of bat have been found in the cave: Myotis velifer incautus, Mormoops megalophylla megalophylla, and Tadarida brasiliensis mexicana. The following observations have been made by Raun and Baker (1958). "At Valdina Farms Mormoops is found in close association with Tadarida mexicana and Myotis velifer. The Mormoops colony is the smallest of the three. The colony of Mexican free-tails numbers in the tens of thousands, Myotis in the thousands and Mormoops only in the hundreds. On January 26, 1957 Mormoops was the only colony present except for a few scattered individuals of Myotis. A few days later however, on February 9, several hundred Myotis and several thousand Tadarida were present. This shows an early return of Tadarida and Myotis on their spring migration back into Texas... The three colonies of bats in Valdina Farms Sinkhole do not appear to intermingle. They all utilize the one and only entrance and of necessity pass through each others roosting chambers in their flights. However, the roosting chambers are seemingly quite distinct. Tadarida inhabits a large, high-vaulted chamber just interior to the twilight zone. Mormoops inhabits a smaller, domed, inner chamber of some 30 to 40 yards in length, 10 yards in width and 4 yards in height. This is separated from the outer Tadarida chamber by a narrow passageway. Myotis inhbbits a third chamber still deeper in the cave, and is again separated from the Mormoops chamber. This inner chamber is somewhat wider and longer but little higher than the chamber occupied by Mormoops." Raun (1960) reports on a mass die-off of the little brown bat in the cave. "On January 31, 1959, the author, accompanied by Mr. Floyd E. Potter, Jr., made a descent into the Valdina Farms Sinkhole in northwestern Medina County, Texas. Mr. Potter had been in the cave some three weeks before and had noticed the presence of large numbers of dead bats... There were no live bats present on this occasion. In an inner chamber of the cave, where there had been an active nursery colony of Myotis in 1957, we found a large number of mummified remains hanging on the walls in the natural position of roosting bats. The remains were recognizable as Myotis velifer but were not in condition for laboratory analysis. A count of the number of remains found hanging on 25 square feet of the wall and a rough extrapolation of the area where remains were visible indicated the presence of more than 500 dead bats. Additional remains, mostly skeletal fragments, were found in profusion on the floor and piled in crevices. Water flows through the cave on occasion, and in each place where there would be an eddy, there were piles of bones. The number of dead bats must have been several times the above estimate, perhaps reaching several thousand. There is no way of knowing what caused the mass die-off. The remains probably have been in the cave since the preceding summer. Disease seems to be the most reasonable answer." Davis, Herreid, and Short (1962) estimated that the population in 1957 totalled four million individuals. The most interesting member of the fauna of Valdina Farms Sinkhole is the blind neotenic salamander, Eurycea troglodytes Baker. This species was discovered in the cave in 1957 by James K. Baker, who subsequently described it as new. It is especially significant in representing an intermediate form between E. latitans and E. rathbuni. Of its habitat, Baker (1957) writes, "Most of the salamanders observed in the sinkhole

inhabited a crystal clear pool of water approximately three feet deep, five feet wide, and 90 feet long; the holotype and most of the paratypes came from this pool. Although the pool is clear, the bottom is covered by several inches of silt and guano, and dead bats are sparsely scattered throughout the water. The food source for the salamanders could not be determined, as no other living organisms on which they could feed were visible in the water. (Stomach contents could not be used as captured specimens were not preserved for several days after capture.) It was noted, however, that the salamanders inhabited only those pools containing guano. Enormous flights of bats pass over some of the pools in the sinkhole, and their droppings and/or decaying dead are evidently utilized as food material by the salamanders, either directly or indirectly." This species has been more recently studied by Wake (1967) and by Bogart (1967). A faunal list of all species taken in the cave follows:

Snails

Physa sp. -- troglophile; from pool at bottom of entrance drop

Ostracods

Candona sp., nr. *stagnalis* Sars -- troglobite; abundant in guano pool

Copepods

Macrocyclops albidus (Jurine) -- troglophile; abundant in guano pool

Paracyclops fimbriatus poppei (Rehberg) -- troglophile; abundant in guano pool

Isopods

Asellus sp. -- troglobite; probably undescribed; found in stream beyond pool

Protrichoniscus reddelli Vandel -- troglobite; found on organic debris

Millipeds

Gosiulus conformatus Chamberlin -- accidental; found at bottom of entrance drop

Centipedes

Unidentified

Spiders

Achaearanea porteri (Banks) -- troglophile; found hanging from walls

Cicurina sp. -- troglobite; probably undescribed; found under rocks

Cicurina varians Gertsch and Mulaik -- troglophile; found under rocks

Nesticus pallidus Emerton -- troglophile; found under rocks

Opilionids

Hoplobunus sp. -- troglobite; undescribed; found on clay banks

Pseudoscorpions

Tejachernes sp. -- troglophile; found in guano

Mites

Unidentified -- found in guano pool

Thysanura

Nicoletia texensis Ulrich -- troglobite; found on clay banks

Crickets

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

Hemiptera

Galgupha sp. -- troglophile; taken from guano

Unidentified -- taken from pool at bottom of entrance drop

Gnats

Unidentified -- troglophile; abundant in bat passages

Beetles
Carabidae
Rhadine howdeni (Barr and Lawrence) -- troglophile
Histeridae
Unidentified -- troglophile; taken from guano
Noteridae
Notomicrus sp. -- taken from guano; may be a troglophile
Pselaphidae
Hamotus sp. -- troglophile; probably undescribed; found under rocks
Salamanders
Eurycea troglodytes Baker -- troglobite
Frogs
Gastrophryne olivacea (Hallowell) -- accidental; found near guano pool
Rana pipiens Schreber -- trogloxene; found in and near guano pool
Bats
Mormoops megalophylla megalophylla Peters -- trogloxene
Myotis velifer incautus (Allen) -- trogloxene
Tadarida brasiliensis mexicana (Saussure) -- trogloxene

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Ref: TSS files

WANANT'S CAVE — Medina County (#5)

Medina Lake 15' Quadrangle

Owner: Wanant

Description: A small vertical entrance leads to a horizontal passage which, after a few feet, drops 25 feet to a lower level. There is 15 feet of free fall. The lower level consists of a room about 10 by 10 by 25 feet high, towards one end of which a small fissure leads back into the limestone for several feet. There are present in the cave a couple of large stalactites, one of which is partially broken off. Cave crickets and harvestmen have been observed.

History: The cave had been previously explored by the owner and a friend back only as far as the vertical drop. The only other recorded exploration is one by Jim Manning, Alan Siebenaler, Preston Knodell, and Pete Prossen of the St. Mary's University Speleological Society on May 4, 1957.

Ref: Jim Manning

WEYNAND'S CAVE — Medina County (#20)

Sabinal 15' Quadrangle

Owner: Louis Weynand

Description: The entrance to the cave is a 2½ foot in diameter hole dropping vertically 12 feet into a small room about 15 feet long, 10 feet wide, and 4 feet high. To the south and west small filled passages extend short distances before becoming impassible. The main passage extends to the north or northeast as a 2 to 3 foot high, 3 to 4 foot wide crawl. After about 20 feet it lowers to 1 foot high and narrows to 2 to 3 feet. After 10 feet it again returns to the 3 to 4 foot wide, 2 to 3 foot high passage. This continues for 40 to 50 feet before it encounters a 10 foot high, 5 foot wide place. This is formed by the collapse of the floor into an apparent lower level, which can be seen but which is blocked by breakdown. Beyond here the passage continues for about 20 feet where a junction is encountered. Straight ahead the passage fills with silt after about 10 feet. To the right it extends about 15 feet where a 20 foot high, 10 foot long, 5 foot wide dome is encountered. This passage continues beyond the dome as a 2 to 3 foot high, 4 foot wide passage for 50 to 60 feet before ending in breakdown apparently associated with a surface sink. The entire floor of the cave is covered with cricket guano to an undetermined depth.

History: The cave was apparently utilized by Indians as a burial place. A partial excavation of the cave by the owner revealed the pres nce of three Indian skeletons. The first bones were found three feet from the floor and covered by a rock fallen from the ceiling. The next skeletal material found was two feet and the third skeleton was one foot from the floor. From one foot to one inch of silt was left above red clay when investigated by Bob Benfer. The first recorded trip to the cave by cavers was made on July 25, 1957, by Pat Casey, Mike Casey, Maurice Fox, and Robert Glass of St. Mary's University Speleological Society. The next trip was made on March 5, 1961, by Bob Benfer, James Reddell, and Philip Russell. On that date an air current was noted blowing out. A later trip was made by Benfer to investigate the archeological potential of the cave. The only other trip which has been made to the cave, so far as it is known, was on August 12, 1965, by James Reddell and John Fish. At that time a collec tion of invertebrates was made.

Biology: The cave, when visited in August, was found to be inhabited by an enormous number of cave crickets. These so filled the passage into the cave that exploration was very unpleasant. The only troglobites found in the cave were spiders and millipeds. In general the cave lacks, due to a strong air circulation, the high humidity and consistent temperature necessary for the maintenance of a distinctive troglobitic assemblage. The following is a list of all species recorded from the cave:

Millipeds
- Cambala speobia (Chamberlin) -- troglobite; abundant on cricket guano

Centipeds
- Unidentified -- at least two species

Spiders
- Cicurina sp. -- troglobite; probably undescribed; found under rocks
- Cicurina varians Gertsch and Mulaik -- troglophile; found under rocks
- Latrodectus mactans F. -- troglobite; found hanging in entrance room

Mites
- Unidentified -- trogloxene; found on cave crickets

Harvestmen
- Unidentified -- trogloxene; found in entrance room

Collembola
- Pseudosinella violenta -- troglophile

Hemiptera - Reduviidae
- Melanolestes abdominalis (Herrick-Schaeffer) -- trogloxene; found in entrance
- Triatoma gerstaeckeri (Stal) -- trogloxene; found in entrance room

Crickets
- Ceuthophilus (Ceuthophilus) secretus Scudder -- trogloxene
- Ceuthophilus (Ceuthophilus) variegatus Scudder -- trogloxene

Ants
- Pachycondyla harpax montezumia F. Smith -- trogloxene; found in entrance room

Beetles
- Alleculidae sp. -- troglophile; unidentified
- Carabidae
  - Rhadine howdeni (Barr and Lawrence) -- troglophile; abundant
  - Trichotichnus sp. -- troglophile

Bibliography: Anonymous. 1965. "News: University of Texas Grotto--NSS." Texas Caver, 10(9):184-185.

Ref: TSS files

ZUBIE'S DRAIN — Medina County

New Fountain 15' or Bandera 15' Quadrangle

Owner: Zuberbueler Ranch

Description: The cave is 25 feet long, drops 10 feet, and ends in silt and mud. The entrance is located in a dry stream bed and drains a considerable area.

Ref: Jim Manning

DOUBTFUL CAVES AND SHELTERS

UNNAMED SINKHOLE — Medina County (#7D)

Bandera 15' Quadrangle

Owner: Jacob Schweers

Description: A "large sink hole" is reported 300 feet south of well C-9-54.

Bibliography: Holt, C.L.R., Jr. 1956. "Geology and ground-water resources of Medina County, Texas." Tex. Board of Water Engineers Bull., 5601, p. 105.

Ref: TSS files

UNNAMED SINKHOLE — Medina County (#6D)

New Fountain 15' Quadrangle

Owner: B. A. Schweers

Description: A "sink hole" is reported near well I-3-15.

Bibliography: Holt, C.L.R., Jr. 1956. "Geology and ground-water resources of Medina County, Texas." Tex. Board of Water Engineers Bull., 5601, p. 118.

Ref: TSS files

UNNAMED SINKHOLES — Medina County (#5D)

New Fountain 15' Quadrangle

Owner: W. Lancaster

Description: "Several sink holes" are reported near well I-3-16.

Bibliography: Holt, C.L.R., Jr. 1956. "Geology and ground-water resources of Medina County, Texas." Tex. Board of Water Engineers Bull., 5601, p. 118.

Ref: TSS files

MEDINA DAM SHELTER — Medina County

Medina Lake 15' Quadrangle

Owner:

Description: This is reported by St. Mary's University Speleological Society to be a small shelter with two openings. The shelter contains no formations but is often visited by picnickers. It can supposedly be seen from the top of the dam, and may be in Paradise Canyon.

Ref: TSS files

MEDINA LAKE SHELTERS — Medina County

Medina Lake 15' Quadrangle

Owner:

Description: These are described as a group of small shelter caves, several of which have dead-end crawlways. Fauna includes cave crickets. They were explored by Ralph Rapp, George Munsch, and Elmer Alsmeyer of St. Mary's University Speleological Society. They are located on Lake Medina.

Ref: TSS files

PARADISE CANYON SHELTER NO. 1 — Medina County (#3D)

Medina Lake 15' Quadrangle

Owner:

Description: The entrance is about 10 feet wide and 6 feet high and leads into a room about 20 feet by 20 feet containing two or three small formations. It was explored by Orion Knox and Barbara Madden on July 4, 1961.

Ref: Orion Knox

PARADISE CANYON SHELTER NO. 2 — Medina County (#4D)

Medina Lake 15' Quadrangle

Owner:

Description: An opening about 3 feet wide and 3 feet high leads up a slope and extends back into a room about 15 feet long and 10 feet wide. It is never more than 3 feet

high. The cave was explored on July 4, 1961, by Orion Knox and Barbara Madden.
Ref: Orion Knox

ROTHE CRAWL — Medina County (#8D)

Sabinal 15' Quadrangle

Owner: Laurence Rothe

Description: This is a small crawlway in broken up rocks. It was explored by Bill Russell and other members of the University of Texas Grotto.
Ref: TSS files

ROTHE PLUGGED PIT — Medina County (#9D)

Sabinal 15' Quadrangle

Owner: Laurence Rothe

Description: This is a sink in the creek in line with Marguerite Cave. It is ten feet deep to a plug. It is reported to open up at times after rains. It was explored by Bill Russell and other members of the University of Texas Grotto.
Ref: TSS files

SCHUCHART RANCH SHELTER CAVE — Medina County (#1D)

Medina Lake 15' Quadrangle

Owner: A. J. Schuchart

Description: This shelter cave has an entrance 10 feet by 8 feet and leads into a room about 20 feet in diameter. It was explored on July 24, 1960, by Orion Knox, Al Brandt, and Leonard Clark of St. Mary's University Speleological Society.
Ref: Orion Knox

SPRING D-7-39

Medina Lake 15' Quadrangle

Owner: R. E. Haby

Description: This spring is reported to issue from a "large solutional hole in the east wall of the Medina River Canyon, 300 feet south of the diversion dam." It is pictured in Holt (1956), but no scale is given so its size is unknown. In May 1953 it was flowing approximately 1,300 gallons per minute. In September 1952 and

March 1953 the diversion lake was dry and the spring ceased to flow. On January 23, 1950, the spring was flowing 8 gpm and the water temperature was 71°F.

Bibliography: Holt, C.L.R., Jr. 1956. "Geology and ground-water resources of Medina County, Texas." Tex. Board of Water Engineers Bull., 5601: 63, 70, 108.

Ref: TSS files