This is the first report concerning the cave dwelling fauna of one of the highest altitude karst areas in México. The Valle de los Fantasmas Region lies in the western part of the Sierra Madre Oriental, specifically, in the Sierra de Álvarez which divides the Llanura de Río Verde from the Valle de San Luis Potosí. The region, as defined in this report, lies wholly within the Municipio de Zaragoza and is about 17 km wide and 28 km long (see map, Fig. 1). The largest village in the region is San Francisco, which may be reached by Highway 86 from Ciudad Valles, 227 km to the east, or San Luis Potosí, 38 km to the west. Elevations range from about 2600 m to 2900 m above sea level.

Floristically, the area may be characterized according to the scheme of Rzedowski (1965). Most of the region is “Encinar arbustivo” (oak scrub), a very open woodland with expanses of savanna and occasional clusters of Opuntia and Agave. About 15 km south of San Francisco the vegetation abruptly changes to juniper and, on the higher peaks nearby, pine. This is presumably related to the presence of volcanic soils (Rzedowski, 1965). The climate is temperate (the mean annual temperature is probably 16°C-18°C) and semi-humid (an estimated 1000 mm of rainfall yearly).

Geologically, the area is complex and has not been adequately studied. The Cretaceous limestone has been intensely folded and ranges from massive to thin bedded from east to west. Metamorphism is apparent, especially in the southern and western areas. Red Earth is common in many areas (good examples may be seen along Highway 86 between Valle de los Fantasmas and Puerto Altamira). Karst development is more advanced on the eastern side of the area. Massive karren, lapies, and karst pinnacles have developed near San Francisco and in the Valle de los Fantasmas immediately to the west. Presumably, the building-size karst pinnacles in the Valle de los Fantasmas are the source of the name Fantasmas (phantoms), as they appear rather ghostly in the frequent fogs encountered at these elevations. The development of sótanos is often controlled, especially in the western areas, by steeply dipping or vertical beds. Igneous activity has further complicated the geology, especially to the south in the vicinity of Cueva de la Puente. This system drains a 1 km diameter dolina which is actually a valley flanked by volcanic ridges and blocked at the south end by an igneous bridge (La Puente). The actual extent of the karst is not presently known, but uninvestigated karst terrain may be seen to the north from Puerto Altamira. The area south of Cueva de la Virgen has not been investigated.

The area was first visited by AMCS members in August 1966. John Fish, David McKenzie, James Reddell, and Richard M. Smith explored seven small pits ranging from 10 to 43 m deep. Cueva de Agua- cate and Cueva de Carnicerías were also visited and a few collections made. Fish entered the impressive Sótano de San Francisco but was unable to reach the bottom because the rope was not long enough (Fish and Reddell, 1966). The area was again visited in November 1966 by Jonathan Davis, John Fish, Charlie Jennings, Charlie and Susie Loving, and Mac Mc-
Laughlin (Fish, 1966). This time Fish reached the bottom of Sótano de San Francisco, but found only water and no place to get off. Biological collections were made from several unspecified pits in the immediate area, and from Sótano de Carlos. Mecistophorus beetles and the first specimens of Mexiphaenops fishi Barr, a troglobite carabid beetle, were collected on this trip. As interest in the area grew, nine more expeditions involving forty persons were made to the region in the years 1969, 1971, and 1972. To date, fifty caves and pits have been reported. Forty-eight of these have been explored, eighteen have been mapped, and twenty-one have been studied biologically. Sixteen of the caves and pits have no names and at least seven (most in the immediate San Francisco area) have not been accurately located on a map. Brief descriptions of the caves that have been studied biologically and other important caves are given below. Maps and descriptions of many of these caves are given by Walsh (1972).

Sótano de Abernathy—This small pit (22 m drop) is located in the "Los Sótanos Unidos" area, about 2 km west of San Francisco. A hole 6 m above the floor leads into a parallel dome-pit, the bottom of which is 38 m below the surface. The pit was mapped in January 1969 by Miles Abernathy, William Elliott, and David Honea.

Cueva del Agua—Located about 14 km SSE of San Francisco in the Cañon de Chivos, this cave ends in a siphon and mud fill after 120 m. The cave was mapped in March 1969 by Jimmy Jarl and Brian Peterson, but no biological collections were made.

Sótano de las Arañas—This pit is located in the Los Sótanos Unidos area and is developed along strongly folded bedding planes. The beds dip 65° at the entrance and steepen to 90° farther down. The entrance is 3 m in diameter and drops 46 m to a talus slope, which ends at the 61 m level. Numerous Recent mammal bones were observed in the cave. The cave was mapped in November 1968 by Joe Cepea and Russell Harmon.

Cueva de los Caballos—This cave is about 400 m NW of Sótano de las Arañas, near the bottom of a small valley. The 6 m high, 9 m wide entrance leads into a 13 m x 15 m room formed under vertically dipping beds. About 30 m of low passage leads from the east end of the room in the dark zone, where the air temperature was 17°C. The entrance room is sometimes used as a horse corral. The cave was mapped in January 1969 by Joe Cepea and Russell Harmon.

Sótano de Carlos—This pit is about 2 km N of San Francisco on the other side of a pass. The 2 m diameter entrance is under a boulder and drops 88 m to a room 8 m wide and 23 m long. The total depth is 99 m. The cave was mapped in November 1968 by Russell Harmon and David Honea.

Cueva de Carnererías—This cave was visited in 1966 and is located in the karst valley containing the village of San Francisco. The cave is a single room formed by collapse and is about 15 m in diameter and 9 m deep.

Cueva de Cinquenta y Ocho—This 105 m long cave lies 1 km W of the village of Cinquenta y Ocho near the top, and on the south side of an east-west valley. The cave is about 3 m wide and 5 m high for most of its length. The air temperature was 14.5°C at the end of the cave. The cave was mapped in May 1972 by William Elliott, Pam Lynn, and Ron Ralph.

Cueva de Entrada Chica—This cave is a 35 m deep vertical pit with a 0.5 m in diameter entrance. It is located in Valle de los Fantasmas and was visited in 1966.

Sumidero de Fantasmas—This large sink, located north of the highway in Valle de los Fantasmas, was visited in 1966. It is a vertical shaft 6 m wide, 10 m long, and 30 m deep. It receives the flood waters of a long flat draw. There is no horizontal extent and the floor is of deep mud.

Sótano de la Golondrina—This pit is about 500 m west of Highway 86 at the "Agua" sign, which is 800 m north of the cobblestone road leading to the Los Sótanos Unidos area. The 3 m diameter entrance drops 18 m to the top of a muddy talus slope. The room at the bottom of the slope is 15 m wide and 12 m high. The total depth is 38 m. A 10 m long side passage at the 18 m level contains many arthropods. The pit was mapped in November 1968 by Martha Burk, Sharon Cathey, William Elliott, and Jimmy Jarl.

Cueva de la Iglesia—This cave is located 1.6 km west of San Francisco in the Valle de los Fantasmas. The 15 m wide, 4 m high entrance slopes down to a single room which is 30 m wide, 40 m long and 14 m high. The total depth is 14 m. The cave was mapped in November 1968 by Keith Heuss, Jimmy Jarl, Jim McIntire, Brian Peterson, and Joe Sumbera, but no biological collections were made.

Cueva de la Laguna—This cave is located on the west side of a stock tank, about 5 km north of Highway 86 in the Valle de los Fantasmas. It may be reached by a dirt road. The 6 m wide, 2 to 3 m high entrance leads into a 12 m long, 5 to 6 m wide room, then under a natural bridge into a 9 m square room. The passage continues for 9 m to a crawlway which goes up to the left for 5 or 6 m. The cave was mapped in May 1972 by William Elliott and Mike
McEachern, and is about 34 m long. The air temperature was 17°C.

**Cueva de las Moscas**—This 12 m long cave was visited in 1968. It is located at the base of a cliff about 2 km south of San Francisco and about 150 m northwest of the dirt road to La Puente.

**Sótano de Nopales**—This pit lies about 1 km southwest of the village of Cinquenta y Ocho near the top of a ridge. The 14 m long, 4 m wide entrance drops 26 m to a 40 m long sloping room. The pit was mapped in November 1968 by Duane Faith and Jimmy Jarl.

**Sótano de Ojo de Agua**—This deep pit is located approximately 8 or 9 km ESE of San Francisco in the Sierra de los Arboles. A two hour hike over confusing, obscure trails is required to reach it. The 8 m diameter entrance drops 71 m to the top of a talus slope. Short drops of 2, 3, 2, and 5 m lead to the lowest level at 97 m. A 35 m long, muddy passage doubles back under the entrance at the 93 m level. The mud temperature in this passage was 13.5°C. The pit was mapped in November 1968 by William Elliott and Jimmy Jarl.

**Sótano del Pájaro**—This pit is located in the Los Sótanos Unidos area. It has two entrances, 2 m and 0.5 m in diameter, which connect at the 5 m level. The larger entrance drops 27 m into a 2 m wide, 10 m long fissure. At the south end of the fissure there is a 6 m drop to a ledge, then a 25 m drop to the main room of the cave. This room is about 9 m in diameter. A 20 m long, 5 m wide, 8 m high passage strikes northeast and ends abruptly. This passage is formed in 70° dipping beds. The lowest point is in the main room (61 m). The bottom of the final drop is littered with many bones (*Peramyscus*, weasel, skunk, deer, pig, goat, and horse). The pit was mapped in January 1969 by William Elliott and David Honea.

**Cueva de la Puente**—This large cave is located in the Dolina de la Puente about 17 km SSE of San Francisco. The cave is formed in metamorphosed limestone. It is not uncommon to see cobbles of serpentine, rhyolite, and limestone together on the cave floor, as well as red and yellow streaks in the cave walls. The cave has two entrances. The main arroyo entrance is 24 m wide and 8 m high and accepts most of the run-off from the volcanic ridges that flank the dolina. The 6 m diameter upper entrance is located 100 m inside the main entrance but does not appear to take any run-off. The 5 m high, 12 m wide passage continues until a 1 m high crawlway is encountered 240 m inside the main entrance. After 100 m the passage opens up to 12 m wide and 2 to 5 m high. This continues for 180 m, at which point a small stream enters from a fissure on the right. This high, narrow fissure has been explored for about 300 m to where it ends in a breakdown room. The main passage continues at the same width and with ceiling heights up to 15 m for 800 m to the Big Room, which is 60 m long, 24 m wide, and 25 to 30 m high. A large stream passage enters from the left. This may be followed over cascades and through small lakes for about 300 m upstream, and roughly southeast, to where the water spurs out of a small hole in the wall. At the Big Room the two streams merge and continue another 240 m to a siphon. The cave meanders from northeast to northwest and strikes north. The terminal siphon lies close to a large, sawdust filled dolina near a junction of the La Puente road, 0.5 km north of the Dolina de la Puente. Terraced sandbanks, large cobbles, and large logs attest to the violent flooding which the cave must undergo at times. As a result, most of the cave fauna is washed in. According to the local inhabitants, the cave has two resurgence, Cueva de la Virgen and Cueva de Salida del Agua de la Puente, which will be discussed below. The air temperature in the cave was 21° to 21.5°C, and the water temperature was 15°-19°C. The cave is considerably warmer than other caves in the region and this might be explained by the close proximity of volcanic rock. The cave was mapped in March 1969 by Logan McNatt, Brian Peterson, Joe Sumbera, Mike Walsh, and Gail Webster. About 2400 m of passage have been explored and 2066 m mapped, making this the largest cave in the Valle de los Fantasmas Region.

**Sótano de Puerto de los Lobos**—This impressive pit is located 2.7 km south of San Francisco on the southern slope of the Sierra de los Arboles. The full name is Sótano Hondo de la Sierra de los Arboles de Puerto de los Lobos. The 10 m diameter entrance is obscured by a thicket of oaks. It does not appear to take surface run-off. The entrance drops 179 m to the top of a steep talus slope. At the bottom of the slope is a 5.5 m drop to a mud slope which ends after 30 m at the low point, 198 m below the entrance. It is possible to rig the pit to obtain a 189 m free drop. At the top of the talus slope is an 8 m x 12 m, 15 m high room, the floor of which is covered with 15 cm of water. A small seep trickles out of the wall and the water flows out of the room and sinks in the talus. At the time of its discovery, the pit was the third deepest drop in México. It was mapped in September 1969 by William Elliott, Duane Faith, Jim McIntyre, and Joe Sumbera.

**Cueva de Salida del Agua de la Puente**—This cave is located in the Cañon de Chivos, 14 km SSE of San Francisco, and about 2.6 km northeast of the terminal siphon in Cueva de la Puente. It is rumored to be
a wet weather resurgence for Cueva de la Puente. Large trees have been reported to wash out of the cave during heavy rains. The cave is a large passage which ends after 122 m in a mud and water siphon. The cave was mapped in March 1969 by Brian Peterson and Jimmy Jarl, but no biological collections were made.

"Cave at San Francisco"—This cave was visited in 1966 but it was not mapped and its exact location is unknown.

Sótano de San Francisco—This impressive pit is located in the village of San Francisco. The steep-sided arroyo leading to the cave carries a small, swift stream during the rainy season. The 3 x 4.5 m entrance drops 102 m to a 21 m long, 4.5 m wide pool full of human fecal matter. A 2 m drop is then encountered, and then a 12 m long pool after 7 m of dry ground. At the end of the second pool is an unentered pit, estimated to be between 170 and 245 m deep. This pit could lead to an extensive system. The cave was first entered by John Fish in August 1966 and again in November 1966 at which time he drew a sketch map (Fish, 1966). The pit was mapped to the top of the second drop in May 1972 by Mike McEachern and Ron Ralph. The water temperature was 14.5°-15°C.

Sótano de San Francisco n. 2—This pit is located 1 km south of San Francisco in a 12 m diameter dolina. The pit follows a vertical bedding plane down to a water filled passage, 43 m below the surface. This passage goes 7 m, turns left, goes another 11 m, and ends in a 5 m long, muddy room. The water temperature was 12°C. The cave was partially mapped in January 1969 by William Elliott and David Homea. The map was completed in May 1972 by William Elliott and Mike McEachern.

Cueva de Sierra Blanca—This cave is located 10.5 km south of San Francisco, about 1 km up a canyon from the La Puente road. The 10 m wide, 5 m high entrance leads into a 24 m long, 10 m wide room, then another room of the same dimensions. Two walking passages extend from the second room, one for 46 m to a breakdown choke, the other to a 3 m diameter room and then to a smaller entrance. The cave was visited in September 1968 but was not mapped nor investigated biologically.

Sótano de Super-Macho—This small, 14 m blind pit was visited in January 1969. It is located in the Los Sótanos Unidos area.

"Small cave at Valle de los Fantasmas"—This cave was visited in 1966, but its exact location is unknown.

"Sink at Valle de los Fantasmas"—This was visited in 1966, but its exact location is unknown.

"Sótano at Valle de los Fantasmas"—This pit was visited in 1966, but its exact location is unknown.

Cueva de la Virgen—This cave is located 2.5 km southeast of Cueva de la Puente. It is reported by the local people to flow during wet weather. Presumably, it is a resurgence for Cueva de la Puente. Past the 24 m high, 6 m wide entrance, the passage slopes upward for about 61 m to a water filled passage which retains the passage dimensions of 24 m in height and 12 m in width. The cave has not been mapped nor studied biologically. It was explored in November 1968 by Duane Faith, Jim McIntire, Bill Ramsel, and Joe Sumbera.

This report is not a complete summary of the taxa that have been collected in this region. Several new species await description, particularly among the millipedes, spiders, and crickets. Terrestrial isopods have been collected in Cueva de la Puente and Cueva de la Laguna and are being studied by Dr. George A. Schultz.

It is most interesting to note that of the 98 species listed in this report (93 of them invertebrates), only two may be considered troglobites (one millipede and one carabid beetle). This contrasts sharply with the nature of the cave fauna of the Sierra de Guatemala, which has a rather high number and percentage of cave-adapted forms (about 18% of the invertebrates) (Mitchell, 1969; Reddell and Mitchell, 1971; Reddell and Elliott, 1973a). The troglobite fauna of the Valle de los Fantasmas region (about 2% of the invertebrates) also contrasts strongly with that of the Sierra de El Abras (about 0% of the invertebrates) (Reddell and Mitchell, 1971a; Reddell and Elliott, 1973), a lowland, semi-tropical area where one would expect the lowest number and percentage of cave adapted species, according to Mitchell's hypothesis (1969). In addition, there are no aquatic troglobites in the Valle de los Fantasmas region, whereas aquatic species make up 50% and 27% of the invertebrate troglobites in the Sierra de El Abras and Sierra de Guatemala, respectively. Furthermore, the cave fauna of the Valle de los Fantasmas region appears to have few affinities with those of the other two regions, and perhaps has had a much different history of colonization. Although little is known of the relative ages of cave systems in these three areas, we find it tempting to speculate that climatic changes in such a high altitude area as Valle de los Fantasmas may have been much more drastic than in the two lower areas we are comparing, especially during the Pleistocene. Severe changes may have served not only to wipe out epigean forms but incipient cave forms as well.

The cave names given in the following checklist are those accepted as standard by the Association for
Mexican Cave Studies. Troglobites are indicated by an asterisk.

We wish to express our appreciation to the following people who have assisted in the collecting or made specimens available to us: Miles Abernathy, James Baldwin, Sam Billings, Martha Burk, Glenn Campbell, Sharon Cathey, Joe Cepeda, John A.L. Cooke, Jonathan Davis, Duane Faith, John Fish, Gordon Graves, Russell Harmon, Keith Heus, David Honea, Jimmy Jarl, Charlie Jennings, Jerry Johnson, Danny Kiser, Charlie Loving, Susie loving, Ann Lucas, Pam Lynn, McEachern, David McKenzie, Jim McIntire, Mac McLaughlin, Robert Mitchell, Brian Peterson, Ron Ralph, Bill Ramse, Richard M. Smith, and Joe Sumbera.

We wish to thank the following systematists for their identification of the taxa included in this report: R.K. Allen, mayflies; D.M. Anderson, beetles; T.C. Barr, Jr., beetles; A. Brindle, earwigs; G.W. Byers, crane flies; R.W. Carlson, ichneumonid wasps; O.L. Cartwright, beetles; B.N. Causey, millipedes; K.C. Christiansen, collembolans; D.R. Davis, moths; O.S. Flint, caddis flies, damselflies, and dragonflies; R.C. Froeschner, hemipterans; R.J. Gagné, flies; G.E. Gates, earthworms; W.J. Gertsch, spiders; C.J. and M.L. Goodnight, harvestmen; A.B. Gurney, earwigs; L.H. Herman, beetles; H.F. Howden, beetles; T.H. Hubbell, crickets; L.V. Knutson, flies; J.D. Lynch, frogs; T.R. Molhagen, bats; W.B. Muchmore, pseudoscorpions; R. Newcomer, salamanders; D.R. Smith, ants; P.J. Spangler, beetles; T.J. Spilman, beetles; G.C. Steyskal, flies; S. Szerlip, hemipterans; R.E. White, beetles; W.W. Wirth, flies.

PHYLUM ANNELIDA
CLASS CLITELLATA
Order Oligochaeta

Family Lumbricidae
Dendrobaena rubida (Savigny) (det. G.E. Gates)
Records—Cueva de la Puente.
Comment—This species is probably of European origin.

Octolasion tyrtaeum (Savigny) (det. G.E. Gates)
Records—Sótano de la Golondrina, Sótano de Nopales, and Sótano de Ojo de Agua.
Comment—This species is probably of European origin.

PHYLUM ARTHROPODA
CLASS ARACHNIDA
Order Scorpionsida

Family Vejovidae
Vejovis sp. nr. granulatus Pocock (det. W.J. Gertsch)
Records—Sótano de Carlos.
Comment—This probably represents an undescribed species.

Order Cheloneithida

Family Cheliferaidae
Mexichelifer raddelli Muchmore
Records—Cueva de Carnicerías.

Family Chernetidae
Undetermined genus and species
Records—Cueva de Cinquenta y Ocho.
Comment—A single protonymph was collected in the dark zone.

Order Araneae
Suborder Mygalomorphae

Family Barychelidae
Zygopelma sp. (det. W.J. Gertsch)
Records—Sótano de Puerto de los Lobos.
Comment—This apparently represents an undescribed species.

Family Theraphosidae
Schizopelma elliotti Gertsch
Records—Cueva de la Laguna.

Suborder Araneomorphae

Family Agelenidae
Tegenaria selva Roth (det. W.J. Gertsch)
Records—Sótano of Abernathy, Sótano of las Arañas, Cueva of los Caballos, Sótano de la Golondrina, Cueva de la Laguna, Cueva de las Moscas, Sótano de Puerto of los Lobos, and Sótano of Ojo de Agua.

Family Caponiidae
Orthonops iapanus Gertsch and Mulaik (det. W.J. Gertsch)
Records—Sótano at Valle of los Fantasmas.

Family Clubionidae
Phrurolithus sp. (det. W.J. Gertsch)
Records—Cueva of the Puente.
Comment—This species is probably an accidental.
Family Linyphiidae

*Eperigone* sp. (det. W.J. Gertsch)
Records—Sótano de Puerto de los Lobos.

Family Nesticidae

*Nesticus palidus* Emerton (det. W.J. Gertsch)
Records—Cueva de la Laguna, Sótano de la Golondrina, Cueva de la Puente, Sótano de San Francisco, and Sótano at Valle de los Fantasmas.


Family Pholcidae

*Coryssocnemis abernathyi* Gertsch
Records—Sótano de Abernathy, Cueva de los Caballos, Sótano de la Golondrina, and Cueva de las Moscas.


*Metagonia punctata* Gertsch (det. W.J. Gertsch)
Records—Cueva de Carnicerías, Cueva de Entrada Chica, Cueva de la Puente, and Sótano at Valle de los Fantasmas.


*Modisimus* sp. (det. W.J. Gertsch)
Records—Sótano at Valle de los Fantasmas.

*Psilochorus concinnus* Gertsch (det. W.J. Gertsch)
Records—Cueva de Cinquenta y Ocho.


Family Sympthyagnostidae

*Maymena chica* Gertsch (det. W.J. Gertsch)
Records—Cueva de los Caballos, Cueva de Cinquenta y Ocho, and Cueva de la Puente.


Order Opilionida

Family Cosmetidae

*Cynorta jamesoni* Goodnight and Goodnight
Records—Sótano de Puerto de los Lobos.


Family Phalangodidae

*Karos parvus* Goodnight and Goodnight
Records—Sótano de Puerto de los Lobos.


CLASS DIPLOPODA

Order Chordeumida

Family Trichopetalidae

*Potterpes ego* Causey
Records—Cueva de la Puente and Sótano de Puerto de los Lobos.


Order Julida

Family Parauiulidae

*Parauiulus* sp. (det. N.B. Causey)
Records—Cueva de Carnicerías, Sumidero de Fantasmas, and Sótano de Puerto de los Lobos.

Comment—This is apparently an undescribed species.

Order Polydesmida

Family Rhachodesminidae

*Strongyloides* sp. (det. N.B. Causey)
Records—Sótano de Puerto de los Lobos.

*Strongyloides potosianus* (Chamberlin) (det. N.B. Causey)
Records—Sumidero de Fantasmas.


*Tiphallus trifolius* Causey (det. N.B. Causey)
Records—Sótano de Napoles.


Family Stylodesminidae

*Bolivaresmus* sp. (det. N.B. Causey)
Records—Cueva de la Puente.

Comment—This is apparently a new species.

*Ceratesmus* sp. (det. N.B. Causey)
Records—Cueva de Cinquenta y Ocho.

Comment—This is apparently a new species.

Family Xystodesminidae

*Rhysoesmus* sp. (det. N.B. Causey)
Records—Sumidero de Fantasmas.

CLASS INSECTA

Order Diplura

Family Campodeidae

Unidentified genus and species (det. W.R. Elliott)
Records—Cueva de los Caballos.

Comment—A single specimen was taken in the dark zone.

Order Collembola

Family Entomobryidae

*Pseudosinella reddelli* Christiansen (det. K. Christiansen)
Records—Cueva de Cinquenta y Ocho, Sótano de la Golondrina, Sótano de Ojo de Agua, and Cueva de la Puente.


Order Ephemeroptera

Family Leptophlebiidae
*Neochoroterpes mexicanus* Allen (det. R.K. Allen)
Records—Cueva de la Puente,
Comment—Nymphs were taken in 19°C stagnant water.

Order Odonata

Family Coenagrionidae
*Argia* sp. (det. O.S. Flint)
Records—Cueva de la Puente and Sótano de San Francisco,
Comment—Nymphs were taken from water in both caves.

Family Cordulegasteridae
*Cordulegaster diadema* Selays (det. O.S. Flint)
Records—Cueva de la Puente,
Comment—One nymph was collected from 19°C stagnant water.

Order Dermaptera

Family Forficulidae
*Ancistrogaster* sp. cf. *toltecus* (Scudder) (det. A.B. Gurney and A. Brindle)
Records—Cueva de la Puente,
Comment—This is apparently a new species.

*Ancistrogaster impennis* Bornmans (det. A.B. Gurney)
Records—Cueva de Carnicerías.

Order Hemiptera

Family Belostomatidae
*Abedus immensus* Menke (det. R.C. Froeschner)
Records—Cueva de la Laguna and Cueva de la Puente,
Comment—A male with eggs on its back was taken in a stagnant pool in Cueva de la Puente.

Family Dipiscoridae
Unidentified genus and species (det. S. Szerlip)
Records—Cueva de la Puente.

Family Gerridae
*Gerris remigis* Say (det. R.C. Froeschner)
Records—Sótano de San Francisco n. 2,
Comment—This common species was abundant in the 12°C water at the bottom of the cave.

Family Veliidae
*Microvelia ? beameri* McKinstry (det. S. Szerlip)
Records—Cueva de la Puente,

*Rhagovelia variipes* Champion (det. S. Szerlip)
Records—Cueva de la Puente.

Order Saltatoria

Family Rhaphidophoridae
*Exochodrilus* sp. (det. T.H. Hubbell)
Records—Sótano de Abernathy, Sótano de las Arañas, Sótano de Carlos, Cueva de Carnicerías, Cueva de Entrada Chica, Sumidero de Fantasmas, Sótano de la Golondrina, Sótano de Ojo de Agua, Cueva de las Moscas, Sótano del Pájaro, Sótano de Puerto de los Lobos, Sótano de Super-Macho, and Sótano at Valle de los Fantasmas.
Comment—This apparently represents an undescribed species, Crickets taken in Cueva de los Caballos, Cueva de Cinquenta y Ocho, and Cueva de la Laguna are probably this species.

Order Coleoptera

Family Cantharidae
*Discodon* sp. (det. T.J. Spilman)
Records—Cueva de la Puente

Family Carabidae
*Agonum (Platynus)* sp. (det. T.C. Barr)
Records—Sótano de la Golondrina and Cueva de la Puente.
Comment—This species may be a troglophilic or trogloxene.

*Amara* sp. (det. T.C. Barr)
Records—Sótano de la Golondrina.
Comment—This is probably an accidental.

*Bembidion* sp. (det. T.C. Barr)
Records—Sótano de San Francisco n. 2.
Comment—This is probably an accidental.

*Colpodes* sp. (det. T.C. Barr)
Records—Sótano de Puerto de los Lobos.

*Mexaphaenops fishi* Barr (det. T.C. Barr)
Records—Small cave at Valle de los Fantasmas and Sótano de la Golondrina.
Comment—This is an apparent troglobite.

*Mexaphrodus* sp. (det. T.C. Barr)
Records—Sumidero de Fantasmas, Sótano de la Golondrina, Sótano del Pájaro, Cueva de la Puente, Sótano de Puerto de los Lobos, Sótano de San Francisco n. 2, and Sink at Valle de los Fantasmas.
Comment—This troglophilic species may actually belong in the genus *Colpodes*.

Family Chrysomelidae
*Heikertingerella* sp. (det. R.E. White)

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Records—Sótano de San Francisco n. 2.
Comment—This accidental species was taken in the twilight zone of the entrance pit.

Family Elateridae
*Aeolus* sp. (det. T.J. Spilman)
Records—Sumidero de Fantasmas.

Family Elmidae
*Clypeopus* sp. (det. P.J. Spangler)
Records—Cueva de la Puente.

Family Lampyridae
Unidentified genus & species (det. D.M. Anderson)
Records—Sótano de Puerto de los Lobos.
Comment—Only larvae of this family were collected.

Family Ptiloractylidae
*Ptiloractylia* sp. (det. T.J. Spilman)
Records—Cueva de la Puente.

Family Scarabaeidae
*Ancognatha manca* LeConte (det. H.F. Howden)
Records—Cueva de la Puente.
Comment—This species is common in México and is accidental in the cave.

*Aphodius* sp. (det. H.F. Howden)
Records—Cueva de los Caballos.
Comment—A single specimen was collected in the entrance area, where it may have been feeding on dung.

*Ataenius cognatus* LeConte (det. O.L. Cartwright)
Records—Sumidero de Fantasmas.

*Diploptaxis* sp. (det. O.L. Cartwright)
Records—Sótano de Puerto de los Lobos.

Family Silphidae
*Silpha cayennensis* Sturm, (det. T.J. Spilman)
Records—Cueva de la Puente.

Family Staphylionidae
*Aleocharinae genus et sp.* (det. L.H. Herman)
Records—Cueva de la Puente.

*Carpelimus* sp. (det. L.H. Herman)
Records—Cueva de la Puente.

*Deleaster trimaculata* Fall (det. L.H. Herman)
Records—Cueva de la Puente.

*Homaeotarsus* sp. (det. L.H. Herman)
Records—Cueva de la Puente.

*Neometodon* sp. (det. L.H. Herman)
Records—Cueva de la Puente.

*Staphylinus* sp. (det. L.H. Herman)
Records—Cueva de la Puente.

*Stilicola condei* Jarige (det. L.H. Herman)
Records—Cueva de la Puente and Cave at San Francisco.
Comment—This troglophilic species ranges north into Texas.

Family Tenebrionidae
*Eleodes* sp. (det. T.J. Spilman)
Records—Cueva de los Caballos and Cueva de Cinquenta y Ocho.
Comment—Specimens were collected at the dark edge of the twilight zone in Cueva de los Caballos and in the entrance of Cueva de Cinquenta y Ocho.

*Eleodes sp. nr. rotundicollis* Eschscholtz (det. T.J. Spilman)
Records—Cueva de Carnicerías.

*Eleodes sp. nr. solieri* Champion (det. T.J. Spilman)
Records—Sótano at Valle de los Fantasmas.

*Eleodes sallei* Champion (det. T.J. Spilman)
Records—Sótano de Abernathy, Cueva de Cinquenta y Ocho, Sótano de la Golondrina, Cueva de las Moscas, Sótano de Nopales, Sótano de Ojo de Agua, Sótano del Pájaro, Sótano de Puerto de los Lobos, and Sótano de Super-Macho.
Comment—This species is a trogloxene. One specimen was collected in the dark zone of Cueva de Cinquenta y Ocho.

*Eleodes solieri* Champion (det. T.J. Spilman)
Records—Sumidero de Fantasmas.

Order Trichoptera

Family Calamoceratidae
*Phylloicus* sp. (det. O.S. Flint)
Records—Cueva de la Puente.
Comment—Larvae and their leaf-constructed cases were collected in 19°C stagnant water.

Family Philopteramidae
*Wormaldia* sp. (det. O.S. Flint)
Records—Cueva de la Puente.
Comment—A single female was collected in the dark zone.

Family Psychomyiidae
*Polycentrepus* sp. (det. O.S. Flint)
Records—Cueva de la Puente.
Comment—One larva was collected in 19°C stagnant water.

*Polycentrepus picana* Ross (det. O.S. Flint)
Records—Cueva de la Puente.
Comment—One adult was collected in the dark zone.

Order Lepidoptera

Family Tineidae
*Tinea* sp. (det. D.R. Davis)
Records—Cueva de la Laguna.

Order Diptera

Family Calliphoridae
*Calliphora vicina* R.-D. (det. R.J. Gagné)
Records—Sótano de San Francisco.
Comment—One adult was collected at the bottom of the entrance pit near a pool laden with human fecal matter.

*Phaenicia* sp. (det. R.J. Gagné)
Records—Sótano de San Francisco.
Comment—A single larva was taken from a pool laden with fecal matter at the bottom of the entrance pit.

Family Cecidomyiidae

*Leptodiplosis* sp. (det. R.J. Gagné)
Records—Cueva de la Puente.

Family Chironomidae

Unidentified genus and species (det. W.W. Wirth)
Records—Sótano de Ojo de Agua.

Family Dolichopodidae

*Chrysotus* sp. (det. G.C. Steyskal)
Records—Sótano de San Francisco n. 2.

*Peloreopeodes cornutus* Van Duzee (det. G.C. Steyskal)
Records—Cueva de la Puente.

Family Drosophilidae

Unidentified genus and species (det. W.W. Wirth)
Records—Sótano at Valle de los Fantasmas.

*Drosophila* sp. (det. W.W. Wirth)
Records—Sótano de San Francisco n. 2.

Family Empididae

*Drapetis* sp. (det. G.C. Steyskal)
Records—Sótano at Valle de los Fantasmas.

Family Mycetophilidae

Unidentified genus and species (det. R.J. Gagné)
Records—Cueva de la Puente.

*Rymosis* sp. (det. R.J. Gagné)
Records—Cueva de los Caballos and Cueva de Cinquenta y Ocho.

Family Scenopinidae

*Pseudatrichia* sp. nr. *melanderi* Kelsey (det. L.V. Knutson)
Records—Cueva de Cinquenta y Ocho.

Family Sciariidae

*Bradysia* sp. (det. R.J. Gagné)
Records—Cueva de la Puente.

Family Sphaeroceridae

*Leptocera* sp. (det. G.C. Steyskal)
Records—Cueva de Cinquenta y Ocho and Sótano de San Francisco n. 2.

Family Tipulidae

*Epiphragma* (*Epiphragma*) sp. (det. G.W. Byers)
Records—Sótano de San Francisco.
Comment—This may be a new species.

*Limonia* (*Dicranomyia*) sp. (det. G.W. Byers)
Records—Sótano de la Golondrina.

Order Hymenoptera

Family Formicidae

*Pheidole* sp. (det. D.R. Smith)
Records—Sótano de San Francisco n. 2.
Comment—Accidental; the head and thorax of a worker were collected at the bottom of the entrance pit.

Family Ichneumonidae

*Orthocentrus* sp. (det. R.W. Carlson)
Records—Cueva de la Puente.
Comment—This is probably a parasite of fungus gnats (*Mycetophilidae*).

PHYLUM CHORDATA

CLASS AMPHIBIA

Order Urodela

Family Ambystomidae

*Ambystoma tigrinum* (Green) (det. R. Newcomer, W.R. Elliott)
Records—Sótano de Abernathy, Sótano de la Golondrina, and Sótano de Puerto de los Lobos.

Family Plethodontidae

*Psuedoeurycea* sp. (det. J.R. Reddell)
Records—Sótano de Abernathy, Sótano de la Golondrina, Sótano de Puerto de los Lobos, and Sótano de Ojo de Agua.
Comment—This species is frequently found on the walls of entrance pits.

Order Anura

Family Leptodactylidae

*Syrrophus longipes* (Baird) (det. J.D. Lynch)
Records—Sótano de Puerto de los Lobos.
Comment—A single frog collected from Sótano de la Golondrina may be this species.

CLASS MAMMALIA

Order Chiroptera

Family Phyllostomatidae

*Artibeus* sp. (det. T.R. Mollhagen)
Records—Cueva de la Puente.
Comment—A colony of perhaps several hundred Leaf-nose bats roosts near the smaller, upper entrance. Other than one dead bat seen at the bottom of Sótano de Ojo de Agua, bats
have not been observed in any other cave in the Valle de los Fantasmas Region.

LITERATURE CITED

