

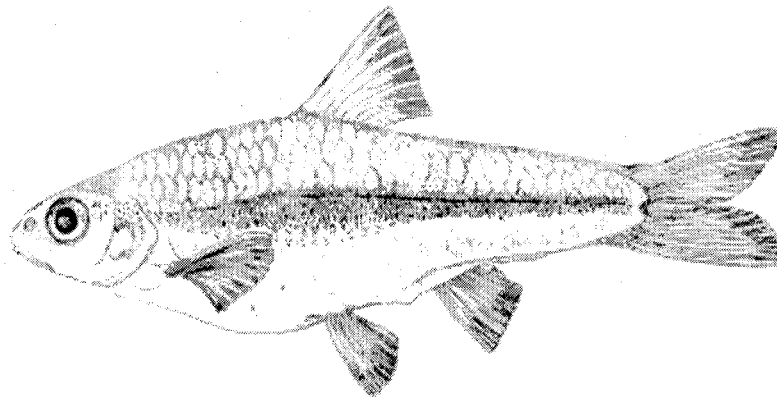
# SPECIAL PUBLICATIONS

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## AQUATIC FAUNA OF THE NORTHERN CHIHUAHUAN DESERT



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*GARY P. GARRETT AND NATHAN L. ALLAN*

# MY FAVORITE OLD FISHING HOLES IN WEST TEXAS: WHERE DID THEY GO?

JAMES F. SCUDDAY

## ABSTRACT

I provide a historical perspective of water resources that were present in Trans-Pecos Texas, particularly Pecos County, from 1940-1980, with notes on the fish and other aquatic organisms that existed in these springs, creeks, lakes and rivers. Recreational fishing for game fish was the impetus for visiting these fishing holes. This in turn led to a young man developing an interest in the natural history of the region. By the late 1950s, the springs were nearly all gone,

wetland marshes disappeared, creeks disappeared, and the rivers looked more like sluggish creeks. The drought of the 1950s, coupled with the boom in pump irrigation projects, spelled the doom for this aquatic waterland. The current drought, in combination with ongoing water development projects, has further degraded the aquatic environment. The future existence of native Chihuahuan Desert fishes under the current trends is unlikely.

## COMANCHE SPRINGS

I was fortunate as a youth growing up in Ft. Stockton, Texas, to be able to do so in a somewhat Tom Sawyerish way. My father was an avid outdoorsman, and he often took my brother and me with him on his many fishing excursions throughout west Texas. Fort Stockton was the center of an astonishing number of fishing holes in an otherwise desert environment. Natural springs gushed forth from numerous locales in all directions from Fort Stockton. The largest series of springs were right in the town of Fort Stockton. The entire Comanche Springs complex consisted of numerous springs along a nearly half-mile stretch of an arroyo bordering the east side of town. The largest single spring was the Chief Spring, a large spring that flowed an average of 35 million gallons (132 million liters) per day. The combined flow of the Chief with the other lesser springs amounted to an outflow of 66 million gallons (250 million liters) per day. This water was tapped early in the history of the area for irrigation of croplands north and northeast of town. As much as 6,200 acres (2,509 ha) of land was eventually watered from Comanche Springs (Brune, 1975).

A municipal swimming pool was constructed around the Chief Spring during the 1930s, and a city park developed around the arroyo bottom to encom-

pass all the other free-flowing springs. Canals from all these springs converged into one large canal just below the swimming pool. Native species of fish such as Mexican tetra (*Astyanax mexicanus*), Comanche Springs pupfish (*Cyprinodon elegans*), mosquitofish (*Gambusia affinis* and/or perhaps *G. nobilis*), roundnose minnow (*Dionda episcopa*) and channel catfish (*Ictalurus punctatus*), along with the common snapping turtle (*Chelydra serpentina*) and the yellow mud turtle (*Kinosternon flavescens*), co-existed in this abundance of water. Largemouth bass (*Micropterus salmoides*) and exotic common carp (*Cyprinus carpio*) were introduced into these springs at random by various individuals over time, and provided some fishing for youngsters and a few adults. These fish were very difficult to catch, probably because of all the natural food already available.

Every October, after the crops had matured, the irrigation canal gates were closed and all the water from the Comanche Springs was diverted down the old Comanche Creek channel. This was done to allow the irrigation district to clean and repair the concrete canals that delivered water to the various farming areas. This abundance of water flowing down the old historical Comanche Creek bed re-created the historical flow of Comanche Creek and its marsh-like condi-

tions. An astounding number of fall migrating waterfowl was attracted to this wetland each year for the several months it lasted. The flow of water was usually turned back into the irrigation canals by the end of December.

All the springs of the Comanche Springs complex ceased to flow during the great drought of the 1950s. This drought, coupled with the increasing trend of clearing new farmland, and the drilling of irrigation wells that tapped the upstream aquifer of the springs, resulted in the loss of flow of nearly all the springs in

Pecos County by 1957. Even now, if rainfall is abundant over a large area of the recharge region, the springs may flow just enough during the mid-winter months to send a small stream of water down the old creek bed for several months. I believe this last occurred in 1990 - 1991. When the pumps start again for a new growing season, the flow quickly stops. In about five years, the farming situation in central Pecos County shifted from a farming economy based on free flowing spring water, to one based on expensive pumping of water from the ground.

### LEON SPRINGS

Leon Springs, located about 8 miles (12.8 km) west of Ft. Stockton, was another large spring complex that was allied with the Comanche Springs complex. The Leon Springs once flowed down its own northward drainage called Leon Creek. It too dwindled away at the same time as the Comanche Springs complex. A general trend by the 1920s was for landowners that had a spring on their property to construct stone and earthen dams across the streambeds below the springs to hold water in a reservoir. Many of these spring-fed reservoirs were stocked with game fish to provide private fishing holes for the landowners and their friends. A large dam across Leon Creek formed a sizable lake, aptly named Leon Lake. The water in Leon Lake was used to irrigate a great many acres of land just north of the lake called the Webb Farms. Today, water pumped from the aquifer below the non-flowing springs irrigates about 100 acres (40.5 ha) of pecan trees on the old Webb Farm lands.

In the 1940s, fishing rights at Leon Lake were restricted to members who paid dues into a fishing club. The fishing was great. The lake was full of largemouth bass and channel catfish. Native fishes were pretty well confined to the upper springs and the canal below the dam, where fisherman seined for baitfish. Mexican tetras were the preferred bait, but roundnose minnows, pupfish and killifish (*Fundulus*) were almost as good. Now I know the correct names of those baitfish, but back then we knew them as shiners, stripers, pigfish and zebras respectively. These same genera were also abundant in the cement-lined irrigation canals below Comanche Springs, and they were the source of baitfish for anyone preparing to go fishing within the region. Comanche and Leon springs had a combined flow of 40,000 acre-feet (49,000,000 cubic meters) in 1946 (Texas Water Development Board, 1984). Today it is zero.

### OTHER SPRINGS

Most of the springs in the area were tied into spring complexes interconnected by underground channels of the same aquifer. It has been historically noted that the headwaters of Comanche Springs flowed about 4 miles (6.4 km) down the Comanche Creek bed, where the water disappeared into the ground. Several kilometers below this point a string of at least eight named springs were located, each separated by 6 to 10 miles (9 to 16 km). These springs flowed from beneath rock ledges or gushed forth from what

was described as "deep holes in the ground". Each of these springs formed extensive marshes, but then the water disappeared into the ground downstream just as it did with Comanche Springs water. Muskrats were apparently plentiful in these marshes and in the Pecos River as well (Bailey, 1905).

There are few records of fish at these springs. A local resident who once lived near Casa Blanca Spring is quoted as saying that as a young boy he caught fish

on many a morning from the creek fed by Casa Blanca Spring for his family's breakfast (Adams, 1984). The kinds of fish caught were not mentioned.

The only spring of this chain I had any personal experience with was San Pedro Springs. This spring was deep and some of the channels leading from it were deep and wide. The San Pedro Land Company owned the land and irrigated several hundred acres (81-120 ha) of land by irrigation ditches. San Pedro Springs was a great fishing hole in the 1940s for largemouth bass and several of the smaller centrarchid species. The landscape around the springs greatly resembled the Diamond Y Spring area today. I cannot recall any small, non-game fish present at San Pedro Springs. All these springs have been dry since the late 1950s. It is interesting to speculate what species of fish might have occurred in this string of springs in the 1800s.

Leon Creek had a few small springs along its course, but the Diamond Y Spring system was the largest, and consisted of a large head spring and several smaller springs along its creek bed. The Diamond Y main spring still flows today, although the flow is reduced from what it flowed in the past. We fished at Diamond Y a few times, but it was never as productive as other fishing holes. The spring itself was not good for fishing, but deep holes of water along the creek bed sometimes produced a nice catch. In the

1980s, I was surprised to find one of my old fishing holes still held quite a bit of water. Drilling for oil in the marshy area below the springs could have proved disastrous in the late 1980s, but fortunately, the damage was minimal.

East of town, Tunas Springs was a favorite hang-out. The Tunas Springs (earlier known as Escondido Springs) consisted of a series of three springs along Tunas Creek. The headspring (or West Spring) issued forth from below a limestone ledge and ran eastward for about 8 km until it disappeared into the creek bed, but it kept a number of deep holes filled with water. Catching fish in these deep holes was sporadic, but it was a beautiful place to while away a summer day, and if fishing wasn't good, hunting arrowheads was. A stagecoach stand was built here long ago close to the spring. During the 1930s, the highway department constructed a roadside park along old U.S. Highway 290 (now Interstate Highway 10) on the hill just above the springs, and built a replica of the stage stand at the park, uphill from its original location. The park is located about 32 km east of Fort Stockton on Interstate Highway 10. Irrigation wells drilled just west of the springs tapped that aquifer too, and the springs have been dry since the late 1950s. The only small fish I remember from this area probably were *Dionda*, stripers in our fish vocabulary of the time.

### PECOS RIVER AND TRIBUTARIES

Farther east, the Pecos River and two of its tributaries, Live Oak Creek and Independence Creek, were two of our favorite get-away-from-home-and-campout places to go fishing. The mouths of both these creeks could be real hot spots for catching fish, and great places to romp and play in the water. On my first trip to the mouth of Live Oak Creek, a memorable catch was made. A large freshwater eel was caught on a trotline set in the Pecos River one night. An old river fisherman by the name of Doss seemed to know all about eels. He informed us that he would fry the eel for supper that evening, and if any were left over we would have it for breakfast. However, he said, it would have to be refried for breakfast because fried eel turned raw when it got cold. I believe I tasted it that night,

but not for breakfast. A number of large channel catfish were caught every time we fished that area. Live Oak Creek originates in Sutton County, passes just west of old Fort Lancaster, and empties into the Pecos River just east of Sheffield, Texas. The only fish I have a record of from Live Oak Creek is *Fundulus zebrinus*. These are in the Sul Ross State University (SRSU) collection and they were seined from beneath the Interstate Highway 10 bridge that spans the creek just east of the Pecos River crossing.

Independence Creek lies in Terrell County, and in my memory, it is the most beautiful place within 300 km of the Pecos River. Our whole family made an annual pilgrimage in the summer for a number of

years to camp for a week or more on the Lindsey Hicks ranch on the upper end of the creek. My brother and I were about 12 and 13 when we first made the trip from Fort Stockton. The purchase of the Hicks' Ranch by Pinky Roden ended our family camping trips. Later in life I met Joe Chandler who owned the lower end of Independence Creek. My field zoology classes were always welcome at the Chandler Ranch and the Sul Ross Vertebrate Collection contains numerous biological materials from that area. Here the Trans-Pecos copperhead (*Agkistrodon contortrix pictigaster*) was first discovered by Dr. Frank Blair (Gloyd and Conant, 1943). Later, the first record of barking frogs (*Eleutherodactylus augusti*) from Trans-Pecos Texas was reported from the limestone canyons above the confluence of Independence Creek and the Pecos River (Scudday, 1965). Specimens of the river carpsucker (*Carpionodes carpio*) from the creek and the Pecos River, and a single specimen of the blue sucker (*Cycleptus elongatus*) from the Pecos River just above the mouth of Independence Creek are deposited in the Sul Ross Vertebrate Collection. The creek itself supports a rich fish fauna, including the Rio Grande cichlid (*Cichlasoma cyanoguttatum*). If there was only one place you could visit in west Texas for overall beauty and biological diversity, go to Independence Creek.

Below the mouth of Independence Creek, the Pecos River begins to cleanse itself as it flows through high limestone canyons and picks up additional fresh spring water. There was one place downstream from Independence Creek where we had to lower our camping gear and ourselves by rope down a bluff to the riverbank. Trotline fishing for catfish was very good, and fishing with rods and reels during the day provided a nice catch of a somewhat flat, shiny fish the men called a gaspergou. This was my first encounter with what I later learned is more correctly called the freshwater drum (*Aplodinotus grunniens*).

Another good fishing place on the Pecos River was somewhere between Grandfalls and Imperial. I recall it was a large pool with water moving very slowly through it. My most impressive memory is of numerous gars swimming lazily on the surface of the water. My brother and I thought it looked like a great swimming hole, but the gars were too intimidating. Here was my second experience with catching gaspergou and my first introduction to the white bass (*Morone chrysops*).

### PHANTOM LAKE

Perhaps our all time favorite fishing hole was Phantom Lake near Balmorhea. Here the water poured forth from a large cave opening in the hillside to the west, forming a small lake of probably less than 3 ha. There was a low bluff on the north side and the water spread out to the south and east of the bluff. Catfish, largemouth bass and crappie (*Pomoxis*) were the main fish caught, but a variety of sunfish could also be caught. Dad's primary interest was the largemouth bass, but my brother and I concentrated on the crappie. We thought they were the best eating fish of all the fish varieties we had sampled.

As youngsters do, we would get tired of fishing and look for something else to do for a while. When exploring above the bluff, we found a large crevice that seemed to drop into a black hole. It was scary looking, and we decided to bring a flashlight with us the next time we came to Phantom Lake, which we

did. When we shined the light into the hole, we saw there was a large flat boulder just below the opening. After dropping some rocks into the hole, we saw numerous bats flying over the big boulder. We were determined that some day when we got older we would come back and explore that hole with some proper equipment. I guess we were about 13 and 14 then. Three years later, about 1946 or 1947, we had our driver's licenses, the war was over, and young men our age had lots of freedom. My brother and I, with three or four of our high school buddies, returned to Phantom Lake with flashlights, ropes, and leather gloves.

We had no problem getting down onto the flat boulder, off the boulder, and onto the floor of what looked like a dry, underground stream. We went what seemed to be downstream a short distance when we came to a narrow crevice that led off to our left. Be-

yond the entrance of the crevice, we could hear the sound of rushing water. The slenderest one of us decided he would try to follow the crevice. He quickly returned and said he went only about 15 meters when he encountered a running stream. He also stated that the crevice was wide enough for any of us to make it through, and it widened even more when it reached the water so at least two of us could stand there at one time. The most fascinating thing about the excursion was finding that shining the beam of a flashlight into the water attracted great numbers of small catfish right up to you. One could actually reach into the water and pick up a fish. The small fish appeared to be blind, having what appeared to be white membranes over the eyes, yet they could detect the light of the flashlight beam in the water and move toward it. None of the fish appeared to be more than about five to six inches in length, and all had darkly pigmented skin. Our last visit to the site was about 1948.

More recently, I have been back to that area twice, once in the mid-1970s, and again in the 1980s. I thought for sure that I could go right to that opening, but I was unable to locate it. The lake itself has been long gone because of the loss of water volume. Man has altered the area around Phantom Lake Spring over time, perhaps in trying to coax more water from the springs and to discourage SCUBA divers from entering the large spring opening. The first measure was to place a heavy grate over the large opening from which Phantom Spring emerged to keep divers from entering the spring. Several divers have died while trying to explore the origin of the spring. Clark Hubbs recently (November, 2001) informed me that the Reeves County Water Improvement District also filled in the openings thorough which we once entered the dry portion of the cavern, and that Phantom Lake Spring had ceased flowing completely in 1999.

#### RED BLUFF LAKE

Another of my favorite fishing holes was Red Bluff Lake on the Pecos River along the New Mexico state line. It is difficult to look at Red Bluff Lake today and realize what a great fishing lake this once was during the 1940s. The salt content of the water in the reservoir was much lower than it is today. Some of my earliest memories of Red Bluff are of standing below the spillway of Red Bluff dam and catching fish as torrents of foaming water poured over the spillway and down the Pecos River. I have no idea how long it's been since water has gone over the spillway of Red Bluff dam. Fishing for largemouth bass was always good in the lake itself using the baitfish we brought with us from Fort Stockton. Some men pre-

ferred to grapple for big catfish with their hands by diving under water and feeling beneath the large rocks that formed the riprap on the lakeside of the dam. Probably because of the drought and the decrease of flow from the Pecos River, the lake was getting too salty for freshwater fish by the mid 1950s. Sometime after that, the Texas Parks and Wildlife Department began to experiment with stocking saltwater fish into the lake. As I remember, red drum (*Sciaenops ocellatus*) and striped bass (*Morone saxatilis*) were introduced, and perhaps other species. I never fished Red Bluff after about 1949, but I did hear that the redbfish did quite well for a time.

#### RIO GRANDE

The Rio Grande was fished for catfish with trotlines, rod and reel, and jug floats. Channel catfish and flathead catfish (*Pylodictis olivaris*) were about all I remember catching. The Rio Grande flowed an abundance of clear water, unless it rained upriver. The fish we caught in the 1940s and 1950s were very good to eat. Channel catfish between 1 and 2 pounds (0.5 and 0.9 kg) were primarily caught in rapids on rod and

reel, while it was not unusual to catch flathead catfish up to 9 kg on the trotlines and jugs. One of the best days catch I made with a rod and reel was about 1943 just upstream from the little village of Ruidosa, Presidio County, Texas. Good rapids were there then from which the village got its name. Today, the Rio Grande no longer flows consistently through that stretch of the river. The river does begin to flow again below

Presidio where water from the Rio Conchos coming in from Mexico reconstitutes the Rio Grande. From this point downriver, the water is so low and polluted with chemicals and sewer effluent, the Big Bend National Park has posted signs warning visitors not to eat any fish they catch from the Rio Grande.

Beavers (*Castor canadensis*) still occur along some stretches of the Rio Grande bordering Brewster

and Presidio counties. Muskrats once occurred along parts of the Pecos River and in the marshes of the Comanche, Leon, and San Soloman spring complexes (Bailey, 1905). The Pecos River muskrat (*Ondatra zibethicus ripensis*) was described by Vernon Bailey in 1902, and may still exist today in irrigation drainage ditches in El Paso County and possibly southeastern New Mexico (K. Holmes, 1970; J. Holmes, 1970).

### CONCLUSION

Now, in the year 2001, another devastating drought has plagued this region since 1992, a drought I consider worse than the one in the 1950s. Ongoing development of massive pump-irrigation projects and the acquisition of water rights by large cities continues at a rapid pace in this desert region. Water levels in underground aquifers are dropping rapidly. The Rio Grande no longer flows into the Gulf of Mexico. The few springs that survived the 1950s drought are now

disappearing. The U.S is threatening to sue Mexico for water owed the U.S., and Texas and New Mexico have continued to do court battle over the water of the Pecos River. Will we see more drastic water wars in the future? Given current trends, and based on personal observations of declines during the past six decades, the eventual loss of the remaining Chihuahuan Desert fishes seems inevitable.

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Address of author:

JAMES F. SCUDDAY

514 E. Harriet  
Alpine, TX 79830  
email: jimscudday@brooksdata.net