

NOTES ON THE FISHES OF THE COLORADO RIVER
NEAR MOAB, UTAH

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A two-year limnological study of the Colorado River in the vicinity of Moab, Utah afforded the authors opportunity to collect and observe the fish fauna of this section of the river. Specifically, the area of study extended from Moab downstream 25 miles to Dead Horse Point. Between May 1962 and October 1964 a total of 2,785 specimens were collected. Some interesting ecological and distributional information has resulted from these collections. The specimens represent five families, thirteen genera, and sixteen species of fish.

Appreciation is extended to the Texas Gulf Sulphur Company, Potash Division, for a research grant which made these studies possible.

CATOSTOMIDAE: *Catostomus latipinnis* Baird and Girard. Flannel-mouth sucker.

This sucker is native to the upper and middle Colorado River drainage. The 122 specimens collected ranged from 32 mm. to 355 mm. in length. Fish were seined mainly from quiet backwaters, but were also taken in the main river channel and at the mouth of tributary washes. Food consisted mainly of algae, organic matter, and bottom ooze.

Pantosteus delphinus (Cope). Bluehead sucker.

This fish is native to the upper Colorado River drainage. Specimens were collected in still backwaters and in tributary washes with gravel bottoms. All of the 43 fish collected were small, ranging from 41 mm. to 89 mm. in length. Food consisted mainly of algae.

Pantosteus platyrhynchus (Cope). Mountain sucker.

This small sucker is distinguished from the above species by lips and are notched at each side of the mouth. Seventeen specimens ranging from 45 mm. to 73 mm. were collected in the same areas as *P. delphinus*. This sucker is native to the Bonneville Basin and feeds on algae.

Xyrauchen texanus (Abbott). Humpback sucker.

The Humpback sucker is native to the lower Colorado River basin. Eight immature specimens were collected in quiet backwater areas. These ranged from 90 mm. to 115 mm. in length. The food of this unique fish consists of algae and bottom ooze found in muddy backwaters.

CYPRINIDAE: *Cyprinus carpio* Linnaeus, Carp.

The European carp was first introduced into Utah in 1881 according to Sigler and Miller (1963). Carp are not common in this part of the Colorado River and only 22 fish were collected ranging from 48 mm.

to a 470 mm. gravid female. Food consisted mainly of amorphous organic matter.

Gila robusta Baird and Girard. Bonytail.

The Bonytail is native to the upper Colorado River basin. Although 10 Bonytails were collected, our sampling techniques were not fully adequate for taking this swift water species. There is some disagreement concerning the *Gila robusta* subspecies, and all specimens collected were treated as *G. robusta* for this report. Stomach analysis revealed small Fathead minnows and Red shiners. The size of specimens collected ranged from 30 mm. to 267 mm.

Ptychocheilus lucius Girard. Colorado squawfish.

This native of the Colorado drainage is the largest North American minnow. Most of the specimens (72) were collected in the late spring and early summer months and ranged from 38 mm. to 254 mm. Although adults were not taken, the young of the year were much in evidence in quiet backwaters. The three largest fish had empty stomachs and the younger fish had ingested organic detritus.

Rhinichthys osculus (Girard). Speckled dace.

This fish is native to this drainage but only nine were collected in the study area. The small specimens, 35 mm. to 42 mm. in length, are of uncertain subspecific identity. Food analysis revealed fragments of green algae (*Cladophora* spp.) and tendipedid larvae.

Pimephales promelas Rafinesque. Fathead minnow.

This minnow was first reported for Utah in a survey of Glen Canyon in 1958 (Smith, 1959). Fathead minnows are abundant in the Moab area of the Colorado River and a total of 960 were collected. Spawning Fathead minnows were observed during late spring and all of the summer months. Large males and gravid females were collected often. This species seems well adapted to the highly turbid water of the river. Food consisted mainly of bottom ooze and algae. They have been successfully reared in aquaria under laboratory conditions for 18 months. Size range of collected specimens: 29-57 mm.

Notropis lutrensis (Baird and Girard). Red shiner.

To our knowledge, this is the first published report of the occurrence of this minnow in Utah. The Red Shiner constitutes about 45 per cent of our total collection. This species was introduced in the lower Colorado River as a bait fish (LaRivers, 1962; Miller, 1952). A large number of specimens were taken (1,251) over the entire survey period from all parts of the river. They ranged in length from 25 mm. to 70 mm. Spawning was observed repeatedly in June and July in quiet backwaters and tributary washes, coinciding with the spawning of the Fathead minnows. These hardy minnows have been maintained in laboratory aquaria for 18 months. Food consisted primarily of algae, protozoans, small aquatic insects, and crustaceans.

ICTALURIDAE: *Ictalurus melas* (Rafinesque). Black bullhead.

This catfish was introduced into Utah Lake in 1914. Since that time it has been widely dispersed throughout the state through human agency. Nineteen fish were collected in backwater areas; they ranged from 48 mm. to 149 mm. in length. Stomach contents of the larger fish revealed ingestion of small killifish, Bonytail, Colorado squawfish, aquatic insects, organic detritus, seeds, etc. This omnivorous species preferred the still water areas of the river.

Ictalurus punctatus (Rafinesque). Channel catfish.

The Channel catfish is native to the Mississippi drainage and is now widespread throughout the Colorado River. Specimens collected (101) ranged from 38 mm. to 406 mm. in length. Its omnivorous feeding habits have allowed successful establishment in the Colorado River. Stomach analysis of 37 catfish in summer revealed that 8 percent of their diet consisted of minnows, 45 percent consisted of organic detritus, and 41 percent consisted of crayfish. Among the larger invertebrates occurring here, the crayfish, *Orconectes virilis* (Hagen) is worthy of special mention. According to H. H. Hobbs, Jr. of the U. S. National Museum, who verified our preliminary identification, this is the first record of the occurrence of *Orconectes virilis* (Hagen) in this section of the Colorado River. This crayfish is native to the Great Lakes drainage and the Mississippi drainage and shows a preference for rivers rather than ponds and other lentic waters. It is commonly collected in spring and summer months and forms a large part of the diet of the larger fishes found near Moab.

CYPRINODONTIDAE: *Fundulus zebrinus* Jordan and Gilbert. Rio Grande killifish.

Thirty-one killifish were collected ranging from 30 mm. to 78 mm. in length. They are commonly found and observed near the mouths of tributary washes and gravel-bottomed backwaters. They have been found in the stomach analysis of catfish, sunfish, and other piscivorous forms in the river. Specimens were maintained in laboratory aquaria for a year. Food preference for aquatic insects is strongly indicated.

CENTRARCHIDAE: *Micropterus salmoides* (Lacepede). Largemouth bass.

This fish was introduced into Utah in 1890 and is taken in many parts of the Colorado drainage. Five small specimens collected in the study ranged from 35 mm. to 45 mm. in length. Food consisted mainly of aquatic insects. Inappropriate sampling methods may have been a factor in the failure to collect more specimens.

Lepomis cyanellus Rafinesque. Green sunfish.

The green sunfish is found throughout the Colorado drainage. ^{specimens} collected ranged from 24 mm. to 130 mm. in length. ^{Food} analysis reveals a strong preference for minnows. Sunfish were ^{collected} in all parts of the study area but were commonly found ^{near} shore.

Lepomis macrochirus Rafinesque. Bluegill.

One fish (48 mm.) was collected in a backwater area. The stomach of this specimen was empty. The bluegill is apparently unsuited for the turbid habitat of the Colorado River.

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