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Michael E. Retzer
Texas A&M University

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NEW RECORDS AND RANGE EXTENSIONS OF TWELVE SPECIES OF FISHES IN THE GULF OF MEXICO

Michael E. Retzer¹

Department of Wildlife and Fisheries Sciences
Texas A&M University
College Station, TX 77843

ABSTRACT: New records and range extensions for twelve species of fishes, *Isistius brasiliensis* (Squalidae), *Lycenchelys bullisi* (Zoarcidae), *Grammicolepis brachiusculus* and *Xenolepidichthys brachiusculus* (Grammicolepididae), *Antigonia capros* (Caproidae), three species of *Rypticus* (Grammistidae), *Decapterus macarellus* and *Decapterus tabl* (Carangidae), and two species of *Etropus* (Bothidae) in the Gulf of Mexico are documented. These records reinforce the belief that the Gulf of Mexico possesses a rich fish fauna but contradicts some ideas concerning the patterns of fish distributions in the region.
[Keywords: fishes; range extensions; Gulf of Mexico]

The Gulf of Mexico possesses a large and rich assemblage of tropical, subtropical, and warm temperate fishes as well as distinct shallow and deep-water faunas (Briggs 1974, Marshall 1965, 1979). Briggs (1974) estimated that over 300 species occur in the northern Gulf of Mexico. Although no complete list of deepwater fishes exists, the Texas Cooperative Wildlife Collections (TCWC), Texas A&M University has over 400 species collected from depths of 200 meters or greater in the Gulf of Mexico.

The fish fauna of at least the northern Gulf of Mexico is relatively well known although there are no comprehensive faunal accounts. Evermann and Kendall (1894), Goode and Bean (1895), and Jordan and Evermann (1896-1900) provided some of the earliest lists and records of Gulf of Mexico fishes. Later works include Baughman (1950a, b), Briggs (1958), Briggs *et al.* (1964), Cashman (1973), Hoese (1958), Hildebrand *et al.* (1964), Medina (1973), and Springer and Bullis (1956). Hoese and Moore (1977) and Robins *et al.* (1986) have recently summarized primarily the continental shelf fish fauna. Several new

records and lists are recently have been published: Branstetter and McEachran (1983, 1986), Bullock and Godcharles (1982), Burgess and Branstetter (1985), Castro-Aguirre and Marquez-Epinoza (1981), Eckmayer (1982), Murdy *et al.* (1983), Rodriguez-Capetillo *et al.* (1987), Sanchez-Gill *et al.* (1981), Smith *et al.* (1975), and Williams and Shipp (1980), and more likely to appear.

Provided here are notable distributional records for thirteen species of fishes that are unknown or poorly documented in the Gulf of Mexico. Complete collection and morphological data are available from the author. Implications of these records are given in the Discussion. All specimens are deposited in the Texas Cooperative Wildlife Collections, Department of Wildlife and Fisheries Sciences, Texas A&M University.

SPECIES ACCOUNTS

Isistius brasiliensis

(Quoy and Gaimard) (Squalidae)

This is the first documented report of *Isistius brasiliensis*, a small pelagic squaloid shark, for the Gulf of Mexico. In the Western North Atlantic, the species has been reported from only a small area around the Bahamas although it is circum-tropical and subtropical in distribution

¹Present address: Illinois Natural History Survey,
172 Natural Resources Building, 607 E. Peabody
Drive, Champaign, IL 61801.

(Campagno 1984, Castro 1983). The four TCWC specimens were captured by mid-water trawls and plankton nets in the northwestern and southern Gulf of Mexico. Reports of its unique bite marks on longline caught swordfish suggest that this species and its congener, *Isistius plutodus*, are fairly common in the northwestern Gulf of Mexico (John D. McEachran *pers. comm.*).

Isistius plutodus is differentiated from *I. brasiliensis* by its teeth, dark pigment on the tips of the caudal fin, and no dark throat collar, (Castro 1983).

Material examined: TCWC 3520.1 (1 specimen) 27°22'N, 94°25'W (depth: 120 meters); TCWC 3985.1 (1) 23°13'N, 90°44'W (3700 m); TCWC 5130.1 (1) 20°48'N, 92°56'W (2270 m); TCWC 5131.1 (1) 19°09'N, 94°06'W (950 m).

***Lycenchelys bullisi* Cohen (Zoarcidae)**

Cohen (1964) described *Lycenchelys bullisi* from two specimens captured at two Gulf of Mexico localities. One specimen was collected from the northern Gulf and the other from off the west side of Key West. Two recently collected specimens from the Gulf of Mexico brings the total number of reported specimens to four. Measurements and proportions of these recent specimens agree with Cohen's descriptions. The only other zoarcid reported from the Gulf is *Exechodontes daidaleus* (De Witt 1977).

Material examined: TCWC 6375.15 (1) 27°32'N, 91°49'W (720 m); TCWC 6382.7 (1) 27°47'N, 90°17'W (687 m).

Grammicolepis brachiusculus

Poey (Grammicolepididae)

Nelson (1984) recently stated that *Grammicolepis brachiusculus* was known only from Hawaii and Cuba. However, Quero (1979) reported the species from the Eastern Atlantic Ocean,

and Trunov (1982) reported it from the southern Atlantic. I report here the first documented Gulf record from a single specimen from the northern Gulf of Mexico. The specimen matches the description given by Myers (1937).

Material examined: TCWC 5499.1 (1) 27°36'N, 94°46'W (400 m).

Xenolepidichthys dalgleishi

Gilchrist (Grammicolepididae)

De Witt *et al.* (1981) recently reported this species as new to the Gulf of Maine and mentioned, but did not specify, undocumented reports (possibly Springer and Bullis 1956) of its occurrence in the northern Gulf of Mexico. The species also occurs off South Africa, Belize, Brazil and the Indo-Pacific region (De Witt *et al.* 1981). Here I document the occurrence of *Xenolepidichthys dalgleishi* in the Gulf of Mexico from three specimens. Each specimen agrees with Myers' (1937) description of the species.

Material examined: TCWC 0272.1 (1) 26°37'N, 84°49'W (378 m); TCWC 0273.1 (1) Gulf of Mexico off Tortugas; TCWC 6358.4 (1) 24°30'N, 95°54'W (400 m).

***Antigonia capros* Lowe (Caproidae)**

With a worldwide distribution in tropical and subtropical regions, this boarfish is common on the outer continental shelf and upper slope of the northern Gulf of Mexico (Berry 1959).

I have examined a specimen of *Antigonia capros* from Campeche Bay, which represents a range extension into the southern Gulf. The specimen is easily identifiable as *A. capros*, rather than *A. combatia*, by the following counts: 8 dorsal spines, 35 dorsal rays and 28 anal rays (Berry 1959).

Material examined: TCWC 6097.9 (1) 18°50'N, 93°43'W (178 m).

Rypticus Cuvier (Grammistidae)

The Atlantic species of *Rypticus* are shallow water fishes that occur in warm temperate and tropical waters from the Atlantic Coast of the United States to South America (Courtenay 1967). *Rypticus bistrispinus*, *R. maculatus*, *R. saponaceus*, and *R. subblifrenatus* have been reported from areas of the Gulf of Mexico. The TCWC specimens of *R. saponaceus* and *R. subblifrenatus* are range extensions into the northern Gulf of Mexico (Castro-Aguirre and Marquez-Espinoza 1981, Courtenay 1967, Robbins *et al.* 1986, and Williams and Shipp 1980).

I have also examined several TCWC specimens of *R. maculatus* that extend its known geographic range into the Bay of Campeche. *Rypticus maculatus* has been reported to occur in the northern Gulf from Florida to Texas (Courtenay 1967). Two specimens (TCWC 4230.6) from off Freeport, Texas, are notable because of their large size, 195-198 mm standard length, the largest reported for this species (Courtenay 1967, Robins *et al.*, 1986). They are readily identifiable as *R. maculatus*, although they lack the characteristic distinct white spots.

Rypticus maculatus TCWC 2882.8 (1) 18°58'N, 95°36'W (80 m); TCWC 4230.6 (2) off Freeport, Texas (65 m); TCWC 6193.11 (1) 21°10'N, 92°17'W (65 m); TCWC 6288.13 (1) 23°29'N, 97°26'W (81 m); TCWC 6365.6 (1) 23°38'N, 97°27'W (70 m); *R. saponaceus* TCWC 2336.1 (1) 28°06'N, 93°20'W (54 m); TCWC 2434.4 (1) Florida: Monroe Co., Matecumbe Key (4 m); *R. subblifrenatus* TCWC 5006.1 (1), 5229.1 (1) 27°53'N, 93°49'W (27 m).

***Decapterus tabl* Berry and
Decapterus macarellus
(Cuvier) (Carangidae)**

A midwater trawl collection from the western Gulf of Mexico contained one specimen of *Decapterus tabl* (a Gulf record) and two specimens of *D.*

macarellus (a significant range extension). All three specimens are juveniles and were easily identifiable using the characters of Berry (1968). *Decapterus tabl* is also known from the east coast of Florida, North Carolina, Bermuda, Colombia, and Venezuela. *Decapterus macarellus*, in the Western Atlantic, is known to occur from the Gulf of Maine to Brazil and is thought to occur in the southeastern Gulf of Mexico (Berry and Smith-Vaniz 1977).

Berry (1968) believed that adult *Decapterus tabl* occurred in deeper offshore waters than the other two species, although juveniles of all three species may be pelagic and occur offshore. Because of the similar appearance of the three species, collections of juvenile *Decapterus* from the Gulf of Mexico that are identified as *D. punctatus* may contain individuals of the other two species. **Material examined:** *D. macarellus* TCWC 6357.1 (2); *D. tabl* TCWC 6357.2 (1) 24° 10'N, 95°46'W (155 m); *D. punctatus* TCWC 4820.1 (2) 28°15'N, 95° 08'W (47 m); TCWC 4827.1 (8) 28°20'N, 95°09'W (36 m).

***Etropus* Jordan and Gilbert (Bothidae)**

Leslie and Stewart (1986) reviewed the New World species of *Etropus* and reported *E. cyclosquamus*, *E. microstomus*, and *E. rimosus* as occurring only along the Atlantic Coast of the United States. The TCWC has several specimens of *E. cyclosquamus* and *E. rimosus* that are worth discussing in light of conclusions reached by Leslie and Stewart (1986).

These three species are the only members of *Etropus* known to possess accessory scales, (Leslie and Stewart 1986). One specimen (TCWC 6366.9) from off the Yucatan possesses prominent accessory scales. I have identified this specimen as *E. rimosus* by its shape and presence of ctenoid scales on the blind

side. Leslie and Stewart (1986) doubted records of this species from Cuba although it does occur in the Florida Keys. They point out that the currents of the Florida Straits would prevent its occurrence south of the Keys. This range extension is even more unusual because the northward currents of the Yucatan Straits add another distributional barrier. It is possible that the specimen represents an undescribed tropical species.

Five specimens of *Etropis cyclosquamus* from the northwestern Gulf of Mexico represent the first report of its occurrence west of Mississippi Sound. Previous records indicate its distribution as being from North Carolina to the east side of the Mississippi Delta (Leslie and Stewart 1986). Lack of records west of the delta have been attributed to oceanic currents preventing a westward migration (Leslie and Stewart 1986).

Material examined: *E. crossotus* TCWC 0895.2 (4) 27°42'N, 97°11'W (2 m); *E. cyclosquamus* TCWC 2241.2 (4) 26°34'N, 97°16'W (7 m), TCWC 3464.3 (1) 29°16'N, 92°54'W (18 m); *E. rimosus* TCWC 6366.9 (1) 21°29'N, 86°40'W (32 m).

DISCUSSION

Briggs (1974) stated that the Gulf of Mexico possesses a rich mixture of temperate warm water and tropical fish faunas. He believed that the fauna of the shallow northern Gulf Coast is similar to, but isolated from, the warm temperate water fauna of eastern Florida. He regarded the southern Gulf of Mexico as a part of the tropical Caribbean faunal province and the northwestern Gulf as having an isolated and distinct fauna from that of the northeastern Gulf (Baughman 1950a, Briggs 1958). However, the intra-Gulf of Mexico faunal regions are not as distinct as previously thought and there is a close affinity to the Caribbean fauna even in the northern

Gulf (Cashman 1973, Smith *et al.* 1975).

The new records and range extensions discussed here suggest that the fauna of shallow Gulf waters is richer and more complex than commonly believed. *Rypticus saponaceus* and *R. subbifrenatus* are tropical species that occur along the northern Gulf Coast while *R. maculatus*, a species that prefers cooler waters (Courtenay 1967), occurs in the tropical southern Gulf of Mexico.

The records of *Etropus rimosus* from off the Yucatan Peninsula and *E. cyclosquamus* from the western Gulf weaken the argument that currents are barriers to fish movements in this area (Leslie and Stewart 1986). The ichthyofauna of the offshore waters of the Gulf of Mexico has been discussed by several authors (Bright 1968, Grey 1958, 1959, Marshall 1965, 1979, Springer and Bullis 1956). All pelagic and deepwater species discussed here, except *Lycenchelys bullisi*, are found outside the Gulf, which supports the generally accepted notion that there are few endemics included in the offshore fauna. Bright (1968) and Briggs (1974) correctly state that the deepwater fauna is primarily an extension of the Caribbean Sea and adjacent areas of the Atlantic Ocean.

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