

Quick Guide to Georgia Fish Families
All Georgia Freshwater Families
Marine Families Captured on Sapelo Island
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This guide follows the families recognized in
Eschmeyer's Catalog of Fishes
([https://www.calacademy.org/scientists/catalog-of-fishes-
classification](https://www.calacademy.org/scientists/catalog-of-fishes-classification))

Families are arranged from more ancestral to derived, but there is
substantial uncertainty in the placement of derived families.

Class Petromyzonti (Lampreys)

Petromyzontidae (northern lampreys): true jaws absent, elongate body with long dorsal fin but no paired fins, gill pores present. Extended larval stage (ammocoete) has flaps of skin (oral hood) surrounding mouth. Adult mouth is a sucking disc. Teeth are more prominent on the sucking discs of parasitic lampreys. Primarily freshwater.



Class Elasmobranchii (Sharks, Skates, Rays)

Carcharhinidae (requiem sharks): First dorsal fin anterior to pelvic fins, five gill slits, with the fifth located over or behind pectoral origin, eyes with well developed nictitating membrane, pre-caudal pit present (small notch before caudal fin), anal fin present. Primarily Marine. Photo by Seth Sullivan.



Sphyrnidae (hammerhead sharks): hammer-like head with eyes at lateral margins, spiracles absent. Marine.



Dasyatidae (whiptail stingrays): Pectoral fins form broad round disc, but not completely rounded as in Urolophidae, dorsal fins not present as in Rajidae (Skates), long slender caudal fin usually with venomous barbed spines, eyes and spiracles on top of head. Marine. Photos by Andrew Davis Tucker.



Gymnuridae (Butterfly rays): Pectoral fins form very broad, pointed disc (i.e., winglike), dorsal fins not present as in Rajidae (Skates), eyes and spiracles on top of head. Marine.



Myliobatidae (eagle, cownose rays): eyes and spiracles on side of head, pointed pectoral fins (i.e., winglike), anterior part of pectoral fins with lobe-like projections. Marine.



Class Actinopteri

Acipenseridae (sturgeons): sharklike caudal fin, 5 rows of bony plates (scutes) along body, ventral mouth preceded by four barbels, large body size. Freshwater and Marine. Photo by Todd Slack.



Lepisosteidae (gars): elongated body and snout, dorsal and anal fin positioned near caudal fin, vertebral column flexed-upward in caudal, hard rhomboid scales. Primarily Freshwater.



Amiidae (bowfin): long dorsal fin, hard gular plate on ventral side of head, rounded caudal fin. Freshwater. Photo by Shelley Dodd.



Elopidae (ladyfish): elongate silvery body with large terminal mouth and deeply forked tail, single dorsal fin with last ray **not** elongated, pelvic fins on belly, bony gular plate on underside of head, small scales, lateral line present. Ribbon-like leptocephalus larval form. One species in Georgia: *Elops saurus*. Marine.



Megalopidae (tarpon): elongate silvery body with large superior mouth and deeply forked tail, single dorsal fin with last ray greatly elongated, pelvic fins on belly, bony gular plate on underside of head, very large scales (Megalops = big scale), lateral line present. Ribbon-like leptocephalus larval form. A magnificent beast by all measures. One species in Georgia: *Megalops atlanticus*. Marine



Ophichthidae (snake eels and worm eels): elongate worm like body with fins reduced or absent. posterior nostril usually within upper lip. Caudal fin replaced by a hard tail tip in many species. Marine and estuarine.



Anguillidae (freshwater eels): elongate body, dorsal and anal fins continuous with caudal fin, pectoral fins present, pelvic fins absent, dorsal fin begins posterior to gill opening. Catadromous.



Hiodontidae (mooneyes): mooneyes superficially resemble shads, but have a lateral line (vs. no lateral line), a smooth (vs. serrated) keel along the belly, and a dorsal fin that is set far back on the body (i.e., over the anal fin vs. over the pelvic fins). Laterally compressed body. Freshwater. Photo by Steve Ross.



Engraulidae (anchovies): single dorsal fin, pelvic fins on belly, soft-rayed fins (i.e., no true spines), laterally-compressed silvery body with silvery lateral stripe, belly not keeled, inferior mouth with maxilla extending past eye, large eyes and snout, gill rakers typically long and numerous. Marine. Photo by Andrew Davis Tucker.



Alosidae (Shads and Sardines): single dorsal fin, pelvic fins on belly, soft-rayed fins (i.e., no true spines), laterally compressed silvery body, lateral line absent, serrated keel on belly, eye with adipose eyelid, axillary process above pelvic fin, gill rakers long and numerous. Freshwater and Marine. Photo by Bryant Bowen. **Note: Formerly in Clupeidae.**



Dorosomatidae (thread herrings and gizzard shads): single dorsal fin, pelvic fins on belly, soft-rayed fins (i.e., no true spines), laterally compressed silvery body, lateral line absent, serrated keel on belly, eye with adipose eyelid, axillary process above pelvic fin, gill rakers long and numerous. Freshwater and Marine. Photo by Alexandra Newton. **Note: Formerly in Clupeidae.**



Catostomidae (suckers): similar to minnows (below), but with thick fleshy lips and an anal fin located relatively close to the caudal fin. Freshwater.



Cobitidae: (loaches): Elongated eel-like body with subterminal mouth and 3 pairs of barbels. (Only 1 introduced species in Georgia, the weather loach, *Misgurnus anguillicaudatus*). Photo by Bryson Hilborn.



Cyprinidae (true carps): 2 introduced species in Georgia, the goldfish (*Carassius auratus*) and common carp (*Cyprinus carpio*, shown). Both species have long dorsal fins and a serrated spinelike ray in the dorsal and anal fins. Common carp have barbels but goldfish lack them. Photo by D. Tannehill.



Xenocyprididae (east Asian minnows or sharp bellies): Only 1 introduced species in Georgia, the grass carp (*Ctenopharyngodon idella*).



Leuciscidae (minnows, shiners, daces, chubs): single dorsal fin, pelvic fins on belly, soft-rayed fins (i.e., no true spines), no teeth in mouth, lateral line usually present. Freshwater. **Note: This family was recently elevated from the family cyprinidae.**



Ariidae (sea catfishes): similar to N. American catfishes (below) but Marine and without nasal barbels. Photos by Christi Lambert.



Ictaluridae (N. American freshwater catfishes): single dorsal fin, pelvic fins on belly, spines in dorsal and pectoral fins, scales absent, adipose fin present, four pairs of barbels, including one set near the nares. Primarily Freshwater. Photo by Noel Burkhead.



Esocidae (pikes): single dorsal fin, pelvic fins on belly, soft-rayed fins (i.e., no true spines), dorsal and anal fins set far back (posterior) on body, elongate body with duck-like snout, forked caudal fin. Large predatory fishes. Freshwater.



Umbridae (mudminnows): Similar to pikes, but smaller and with a rounded body profile and caudal fin. Freshwater.



Salmonidae (trouts and allies): single dorsal fin, pelvic fins on belly, soft-rayed fins (i.e., no true spines), adipose fin present, axillary process at base of pelvic fins. Freshwater in Georgia.



Aphredoderidae (pirate perch): single dorsal fin with spines and rays, large mouth, urogenital opening on throat, that's right, urogenital opening on the throat of adults. Freshwater. Photo by Noel Burkhead.



Amblyopside (cavefishes and swampfish): single dorsal fin, soft and spiny-rayed fins, tubular nostrils, small eyes, pelvic fins absent or reduced, urogenital opening on throat. No, I am not making this stuff up. Freshwater. Photo by Noel Burkhead.



Phycidae (hakes): two or three dorsal fins, chin barbel usually present, pelvic fins long and slender, some species have more than 1 anal fin, true spines absent. BA has only caught in Sapelo trawl in March, not May. Marine. Photo by Lisa Kruse.



Batrachoididae (toadfishes): soft and spiny-rayed fins, two dorsal fins, second dorsal and anal fin very long, pelvic fins jugular (on throat), caudal fin rounded, large head and large pectoral fins, eyes directed upwards (versus laterally), usually without scales Marine and Space! Photo by C. Reuter.



Stromateidae (butterfishes): soft and spiny-rayed fins present, single dorsal fin, pelvic fins absent in adults, deep bodied and silvery, large eye, rounded snout, sac-like outgrowth from gut often visible behind last gill arch. Marine.



Pomatomidae (bluefish): soft and spiny-rayed fins, two separate dorsal fins, pelvic fins on breast, 2nd dorsal and anal fin long and covered with scales, caudal peduncle without scutes, terminal mouth with canine-like teeth (watch your fingers!). Marine.



Scombridae (mackerels and tunas): soft and spiny-rayed fins present, two widely separated dorsal fins, finlets following 2nd dorsal and anal fins, pectoral fins high on body, caudal peduncle keeled. Marine.



Trichiuridae (cutlassfishes): soft and spiny-rayed fins present, long dorsal fin, laterally compressed and elongated body with silvery coloration, lower jaw projecting and with long, often fang-like teeth. Marine.



Syngnathidae (pipefishes, seahorses): tubular snout, body encased by bony rings, single dorsal fin, small anal fin, (dorsal, anal, pectoral, and caudal fins may be absent in some species), pelvic fins absent, caudal peduncle may be prehensile in species without caudal fins. Primarily Marine but a few species enter Freshwater.



Eleotridae (sleepers): soft and spiny-rayed fins present, two separate dorsal fins, pelvic fins on breast and not fused together, 6 branchiostegal rays (may need scope to check), lateral line absent. Primarily Marine but may enter freshwater. Photo by Dirk Stevenson.



Gobiidae (gobies): soft and spiny-rayed fins present, two separate dorsal fins, pelvic fins on breast and usually fused together to form a sucking disc, 5 branchiostegal rays (may need scope to check), lateral line absent. Primarily Marine but may enter freshwater.



Sphyraenidae (barracudas): Elongated body with large mouth, extended lower jaw and prominent teeth. Widely separated dorsal fins, soft and spiny rayed fins present. Watch your fingers and shiny jewelry. Marine.



Atherinopsidae (new world silversides): soft and spiny-rayed fins, dorsal fins widely separated, pectoral fins high on the body, pelvic fins on belly, anal fin sickle-shaped with a single spine, laterally compressed body that is silvery or translucent and has a silvery lateral stripe. Small bodied schooling species. Typically Marine but some species occur in freshwater. Photo by Howard Jelks.



Fundulidae (topminnows, killifish): single dorsal fin, no spines in fins, pelvic fins on belly, small, upturned mouth (superior), lateral line absent, third anal fin ray is branched in males and females and not modified into an intromittent organ in males, males and females often exhibiting strong differences in color patterns, small fishes often observed swimming at surface. Freshwater and Marine.



Cyprinodontidae (pupfishes): single dorsal fin, no spines in fins, pelvic fins on belly, small, upturned mouth (superior), lateral line absent, third anal fin ray is branched in males and females and not modified into an intromittent organ in males, males and females often exhibiting strong differences in color patterns, much deeper bodied than topminnows and killifishes. Small body size. Tolerant of extremes in salinity, temperature and oxygen. Freshwater and Marine. Photo by Noel Burkhead.



Poeciliidae (livebearers): single dorsal fin, no spines in fins, pelvic fins on belly, small, upturned mouth (superior), lateral line absent, third anal fin ray is unbranched in males and females and modified into an intromittent organ in males (i.e., the gonopodium), males and females often exhibiting strong differences in color patterns. Females bear live young. Freshwater and brackish. *Gambusia* photo (right) by Steve Ross.



Belonidae (needlefishes): elongated upper and lower jaws are of equal length (except in young) and contain needle-like teeth, long dorsal and anal fins set far back on elongated body, pelvic fins on belly, lateral line runs along lower side of body, small scales. Primarily Marine but some species may also occur in Freshwater. Photo by Dave Neely.



Exocoetidae: (flyingfishes): exceptionally large pectoral fins that permit gliding above the water for exceptional distances, deeply forked caudal fin with lower lobe larger than upper lobe. Marine. Extends from coastal waters to hundreds of miles offshore. This one beached during May on Sapelo.



Mugilidae (mulletts): soft and spiny-rayed fins, dorsal fins widely separated, pectoral fins high on the body, pelvic fin located between belly and throat, three anal spines, lateral line poorly developed or absent, long gill rakers. Typically Marine but may also occur in coastal freshwater. Photo by Andrew Davis Tucker.



Gobiesocidae (clingfishes): dorso-ventrally compressed body with wide head, pelvic fins modified into a sucking disc, single dorsal fin without spines, scales absent. Marine. Need a better picture!



Blenniidae (combtooth blennies): Most species are small (< 15cm) and naked (scaleless) with a strongly sloping head. Fleshy projections (cirri) may be present on head. Jaws with comblike teeth. Soft and spiny-rayed fins. Marine



Triglidae (searobins): soft and spiny-rayed fins, two separate dorsal fins, subterminal mouth without barbels, large pectoral fins with first three rays not connected to rest of fin (i.e., free). Marine



Cottidae (sculpins): soft and spiny-rayed fins, two separate dorsal fins, large subterminal mouth, large head, large pectoral fins, spines on pre-opercle, pelvic fins on breast, body usually naked or with only a few scales or prickles, lateral line present. Marine and Freshwater.



Moronidae (temperate basses): soft and spiny-rayed fins, two separate dorsal fins, pelvic fins on breast, anal fin with 3 spines, opercle with two spines, lateral line extends onto caudal fin, deep-bodied silvery fishes with large terminal mouths. Marine and Freshwater. Photo by Steve Ross.



Ephippidae (spadefishes): soft and spiny-rayed fins present, similar to angelfish (Pomacanthidae) but dorsal fin divided into soft and spinous portion (versus continuous). Pelvic fins on breast, 3 anal spines, deep bodied and laterally compressed. Marine.



Gerreidae (mojarras): soft and spiny-rayed dorsal fins connected, base of dorsal and anal fins bordered by a scaly sheath, pelvic fins on breast, deeply forked caudal fin, strongly protrusible mouth. Deep bodied, laterally compressed fishes, usually with silvery coloration. Most species are small. Marine. Really need a better picture.



Serranidae (sea basses): soft and spiny-rayed fins almost always connected, pelvic fins on breast, anal fin with 3 spines, opercle with three spines. Sex change occurs in many species. Marine.



Centrarchidae (sunfishes, black basses): soft and spiny-rayed fins, soft and spiny dorsal fins are joined together, pelvic fins on breast, anal fin with 3-8 spines, spines absent on opercle, lateral line present but may be incomplete and does not extend onto caudal fin, most species are deep bodied. Freshwater.



Elassomatidae (pygmy sunfishes): Very small fishes (< 2 in.) with soft and spiny-rayed fins, a single dorsal fin, pelvic fins on breast, and a rounded caudal fin. Lateral line absent. Median fins are spotted. Males (left photo) usually have iridescent blue and green coloration during spawning. Freshwater.



Percidae (walleye, perch, darters): soft and spiny-rayed fins, soft and spiny dorsal fins are separate or narrowly joined together, pelvic fins on breast, 1-2 anal spines, lateral line present but may be incomplete. Most species are small (< 6 in), many have brilliant breeding coloration. Freshwater.



Carangidae (jacks and pompanos): soft and spiny rayed fins, laterally compressed body with deeply forked caudal fin and slender caudal peduncle, small scales, bony scutes often present along side, usually with 1-2 anal spines that are separate from the rest of the anal fin. Coloration is typically silvery with metallic reflections. Marine.



Sparidae (porgies): soft and spiny-rayed dorsal fins connected, pelvic fins on breast, forked caudal fin, anal fin with three spines, pre-opercle not serrated, front teeth are flattened incisors or peg-like canines, rear teeth are molariform. Deep-bodied, laterally compressed fishes. Marine but some species may enter Freshwater. Photo by Bud Freeman.



Sciaenidae (croakers, drums): soft and spiny-rayed fins, soft and spiny dorsal fins deeply notched or separate, caudal fin usually not forked (spot are an exception), pelvic fins on breast, anal fin with 1-2 spines, lateral line extends onto caudal fin. Marine but some species may enter Freshwater.



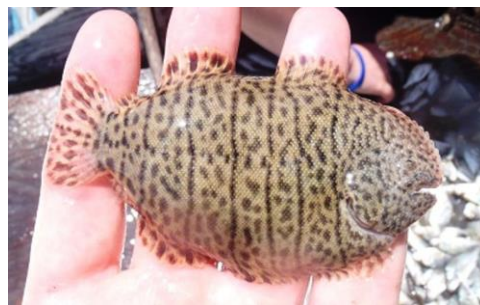
Uranoscopidae (stargazers): large, flattened head with upward directed eyes, mouth strongly angled (i.e., oblique), long soft dorsal and anal fins, pelvic fins on throat, body naked or with small scales, lateral line runs along upper side of body. Some species with electric organ behind the eyes. Marine.



Paralichthyidae (sand flounders): eyes usually on left-side of body, pelvic fin bases short and symmetrical. Marine but some species may enter freshwater. Note: This family is included as a subfamily of the Bothidae in older books.



Achiridae (American soles, hogchoker): eyes on right side of body, dorsal and anal fins free from caudal fin, edge of pre-opercle scaled, rounded head. Marine, but some species enter freshwater.



Cynoglossidae (tonguefishes): eyes on left side of body, caudal fin pointed and continuous with dorsal and anal fins, small closely-spaced eyes, shaped like a tongue. Marine but some species may enter freshwater.



Monacanthidae (filefishes): Filelike dorsal spine. Small scales cover prickly body. Marine. Photo by Andrew Davis Tucker. Hand captured by Dr. Susan Wilde in May 2015. Seriously.



Tetraodontidae (puffers): four fused teeth in jaws, inflatable body that is smooth or with only short prickles. Primarily Marine.



Diodontidae (porcupine fishes, burrfishes): two fused teeth in jaws, body can be inflated by swallowing water or air and is covered with spines. Marine.



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