**Key to the Common Orders of Fish of the Coastal Bend**

**Compiled by Chad Huckabee, 2019 Revision**

This Key is modified from Provisional Keys to the Marine Fish of Texas by Jack C. Parker, Benny J. Gallaway, and Donald Moore (not published)

Yellow denotes fish, or fish orders not **normally** found in inshore or Coastal Bend waters

**Bold type** indicates Fish Orders

1. a. Five to seven pairs of gill openings...........................................................................................................................2

 b. One pair of gill opening.............................................................................................................................4

2. a. Gill openings lateral, on side of head; anterior margins of pectoralis free from head.................................................................................................................................3

 b. Gill openings ventral, on under surface of head; anterior margins of pectorals fused to head. **RAJIIFORMES**: Skates, Rays, Sawfishes, Guitarfishes

3. a. Gill openings 7; head narrow with pointed snout.  **HEXANCHIFORMES**: Cow Sharks

 b. Gill openings 5; head and snout variable. **SQUALIFORMES**: Sharks, Hammerhead Sharks, and Angle Sharks

4. a. Caudal fin abbreviated or strongly heterocercal......................................................................................................................5

 b. Caudal fin present or absent, when present homocercal.......................................................................................................................7

5. a. Caudal fin strongly heterocercal. **ACIPENSERIFORMES**: Sturgeons

 b. Caudal fin abbreviate heterocercal.....................................................................................................................6

6. a. Body covered with cycloid scales; base of dorsal fin at least half as long as body length; snout not lengthened into a beak. **AMIIFORMES**: Bowfins

 b. Body covered with thick, rhombic, ganoid scales; base of dorsal fin much shorter than half of body length; snout produced into a beak. **SIMIONOTIFORMES** (Lepisosteiformes): Gars

7. a. Snout a protruding tube which bears short jaws at the end. **GASTEROSTEIFORMES**: Seahorses, Pipefishes and Cornetfishes

 b. Snout not formed into a protruding tube (but may be formed into a beak whose jaws extend to its base). ......................................................................................................8

8. a. Gill openings represented by a small hole behind base of each pectoral fins; illicium always present but sometimes retracted under snout. **LOPHIFORMES**: Goosefishes, Frogfishes, and Batfishes

 b. Gill openings in front of base of pectoral fins; illicium absent...............................................................................................................................9

9. a. Body asymmetrical and flat, with eyes on one side of head. **PLUERONECTIFORMES**: Flounders, Soles, and Tonguefishes

 b. Body symmetrical, one eye on each side of head................................................................................................................................10

10. a. Top of head with a flat, laminated suctorial disc with transverse septa and oval in outline. **PERCIFORMES** ( in part = Echeneiformes): Remoras

 b. Top of head without suckingdisc.................................................................................... 11

11. a. Breast with a large sucking disc. **GOBIESOCIFORMES**: Clingfishes

 b. Breast without a sucking disc........................................................................................12

12. a. Lateral line single, located along the ventral outline its entire length. **ANTHERINIFORMES** (in part = Beliformes): Needlefishes, Halfbeaks and Flying fishes

 b. Lateral line present or absent, when present at least partly along or above longitudinal midline............................................................................................................................13

13. a. Gill opening an ear-like hole just anterior to or slightly above the base of each pectoral fin and seldom much longer than the width of the base of the pectoral fin; body form not elongate and nearly cylindrical. **TETRODONTIFORMES**: Triggerfishes, Puffers, Filefishes, Cowfishes and Ocean Sunfish

 b. Gill opening not as above, or if so, body form elongate and nearly cylindrical........................................................................................................................14

14. a. Pectorals and dorsal each with a single strong anterior spine (hard ray); head barbels well developed and elongate; body naked; adipose fin present, **SILURIFORMES**: Catfishes

 b. Pectoral and dorsal spines, when present, not in above combination; head barbels present or absent; body naked or with scales; adipose fin present or absent.............................................................................................................................15

15. a. Body elongate and nearly cylindrical, only slightly compressed if at all; anus in normal position (just forward of anal fin); operculum reduced; gill openings small and restricted; pelvic fins absent. **ANGUILLIFORMES**: Eels

 b. Body usually not elongate and nearly cylindrical, if so either greatly compressed or anus near throat; operculum usually well developed; pelvic fins present or absent.............................................................................................................................16

16. a. Gular plate (a large bone in the throat between the angle formed by the lower jaws) present. **ELIPIFORMES**: Tarpons, Ladyfish (Skipjack) and Bonefish

 b. Gular plate absent.............................................................................................................................17

17. a. Eye with a crescent of white tissue over upper part of iris; trunk of body elongated and angular (a cross-section at mid-trunk would show either a polygon or square).  **SALMONIFORMES**: Argentines

 b. Eye without a crescent of white tissue over upper part of iris; trunk of body not as above ( a cross-section at mid=trunk would be oval or circular.....................................18

18. a. Upper jaw produced into a bony sword-like bill. Perciformes (in part): Billfishes

 b., Upper jaw not produced into a bony sword-like bill....................................................19

19. a. Pelvic fins, when present, without spines, when absent, anus near throat and trunk of body nearly cylindrical....................................................................................................20

 b. Pelvic fins, when present, with spines, when absent, anus is normal position (just forward of anal fin) and trunk of body usually compressed...........................................23

20. a. Pelvic fins present or absent, when present, inserted (location of fin base) directly under, or in front of, pectoral fin insertion, if inserted slightly behind pectoral fin insertion. Body tapering to a point posteriorly. **GADIFORMES**: Jugularfishes

 b. Pelvic fins present and inserted behind pectoral fin base if only slightly behind, body not tapering to a point posteriorly......................................................................................................................21

21. a. Adipose fin present. **MYCTOPHIFORMES**: Lizardfishes, Greeneyes, Lancetfishes, and Lanternfishes

 b. Adipose fin absent..........................................................................................................22

22. a. Caudal fin forked; adipose eyelid usually present; scales absent from head and operculum. **CLUPEIFORMES**: Herrings and Anchovies

 b. Caudal fin rounded or truncate; adipose eyelids absent; scales present on head and /or operculum. **ATHERINIFORMES** (in part = Cyprinodontiformes): Killifishes and Livebearers

23. a. Gill-bearing arches 3; dorsal fins 2, spinous dorsal short with 2 or 3 low stout spines, soft dorsal long, consisting of many segmented rays. **BATRACHOIDIFORMES**: Toadfishes and Midshipmens

 b. Gill-bearing arches 4, dorsal fins 1 or 2, their lengths variable......................................24

24. a. Body very deep and compressed; anal fins 2, the first with 3 stout spines connected by membranes and the second with 24 to 33 soft rays; body either covered with rough, spiny scales or naked except for bony plates along base of dorsal fin and ventral margin of body **ZEIFORMES**: Dories and Boarfishes

 b. Not fitting the above description...................................................................................25

25. a. Pelvic fins present, with 1 spine and 6-10 rays (membrane bones of head often spinate or with conspicuous mucous cavities; eyes usually large). **BERYCIFORMES**: Beardfishes, Armorheads and Squirrelfishes

 b. Pelvic fins present or absent, when present with 1 spine and not more than 5 rays....26

26. a. Caudal fin present; pectorals placed high on sides; two dorsal fins present and well separated, spinous dorsal with 4-8 slender spines or unsegmented hard rays; anal fin with 1 weak spine or unsegmented ray; lateral line absent; a prominent dark or silvery band extending along the sides. **ATHERINIFORMES** (in part = Atherinidae): Silversides

 b. Not fitting the above description in its entirety. **PERCIFORMES**