Sub-order III. PERCESOCES.

The Fishes of this sub-order differ from the Acanthopterygii in the abdominal position of the ventral fins, the pelvic bones not being directly attached to the clavicles. In all the American species there are two well-separated dorsal fins, the first of which is formed of from 3 to 9 spines, the second of a spine and 7 to 15 articulated rays. The anal fin is wholly or partly opposed to the second dorsal and has from 1 to 3 spines. The ventral fins are inserted well behind the base of the pectorals; each consists of a spine and 5 branched rays. The caudal fin is forked.

Each of the four families is marine and widely distributed. The majority of the species are shore-fishes which frequent the mouths of rivers and sometimes ascend into fresh water. The Atherinidæ and Mugilidæ include a number of permanently fluvial forms.

Synopsis of the American Families of the Sub-order Percesoces.

I. Lateral line usually absent, never complete; pectoral fins placed high.
   Anterior dorsal of 3 to 8 slender spines; a single anal spine; vertebrae
   32 to 60 ........................................ 1. Atherinidæ.
   Anterior dorsal of 3 to 5 pungent spines; 2 or 3 anal spines; vertebrae
   24 to 26 ........................................ 2. Mugilidæ.

II. Lateral line present, complete; pectoral fins placed low.
   Pectoral fin with a detached lower portion composed of free filamentous
   rays ........................................ 4. Polynemidæ.

Fam. 1. Atherinidæ.

The Atherinidæ occur on the coasts of most tropical and temperate seas; a considerable number of them enter or permanently inhabit fresh waters. Those found in the rivers and lakes of Mexico and Central America have the following features in common:—Body elongate, more or less compressed. Lateral line usually absent, never complete. Two well-separated dorsal fins, the first formed of 3 to 6 slender spines, the second of a short spine and 7 to 13 articulated rays. Anal with one spine and 12 to 25 articulated rays. Pectorals placed high; ventrals abdominal, each with one spine and 5 branched rays. Caudal forked. Præmaxillaries protractile; jaws with two or more series of conical teeth; palate toothless, or a few teeth on the vomer. A silvery lateral longitudinal band or stripe always present.