III. Length of head 3 to 3½ in the length of the fish. Lower jaw projecting, ½ or a little more than ½ the length of head. Anal with I 18–24 rays. 20 to 23 gill-rakers on the lower part of the anterior arch.

A. Teeth small or moderate, close-set; maxillary exposed distally.

1. Lower jaw moderately projecting, ½ the length of head; pectoral ⅓ to ⅔ the length of head, extending nearly to above the middle of ventrals.

50 to 60 scales in a longitudinal series 11. lucius.
60 to 75 scales in a longitudinal series 12. diazi.

2. Lower jaw strongly projecting, a little more than ½ the length of head; pectoral to the length of head, extending a little beyond the middle of ventrals 13. ocoitane.

B. Teeth strong, set rather far apart, in two series; edge of maxillary exposed for nearly its whole length 14. sphyrena.

1. Chirostoma bartoni. (Tab. X. fig. 2.)


Chirostoma attenuatum, Meek, l. c. fig. 55 3.

Chirostoma zirahuen, Meek, t. c. p. 174, fig. 57 4.

Depth of body 5 to 6 in the length, length of head 4½ to 4¼. Snout as long as eye, the diameter of which is 3½ in the length of head and a little less than the interorbital width. Teeth small; jaws equal anteriorly or the lower very slightly projecting; maxillary not or but very slightly exposed distally, not extending to below the eye. 17 or 18 gill-rakers on the lower part of anterior arch. Scales mostly with entire edges, 45 to 57 in a longitudinal series. Dorsal IV–V, I 8–10; spinous dorsal well in advance of anal, its origin usually nearer to tip of snout than to base of caudal. Anal I 12–15. Pectoral ⅓ to ⅔ the length of head, extending to above base or anterior part of ventrals. Caudal forked. Caudal peduncle 3 to 4 as long as deep.

Hab. Mexico, Rio Lerma System:
Guanajuato 1; Lake Patzcuaro 3; Lake Zirahuen 4; Lerma 2.

Here described from several specimens, measuring up to 100 mm. in total length.

2. Chirostoma patzcuaro. (Tab. X. fig. 1.)


Depth of body 5½ in the length, length of head 4½. Snout as long as eye, the diameter of which is 3½ in the length of head and nearly equal to the interorbital width. Teeth small; lower jaw very slightly projecting; maxillary very slightly exposed distally, not extending to below the eye. 20 gill-rakers on the lower part of the anterior arch. Scales mostly with entire edges, 45 in a longitudinal series. Dorsal V, I 10; spinous dorsal in advance of anal, its origin slightly nearer to tip of snout than to base of caudal. Anal I 15. Pectoral ⅓ the length of head, extending a little beyond the base of ventrals. Caudal forked. Caudal peduncle 2½ as long as deep.

Hab. Mexico, Rio Lerma System:
Lake Patzcuaro 1.

Here described from a single specimen from Lake Patzcuaro (Meek), measuring