

B. Width of mouth $\frac{3}{5}$ to $\frac{3}{4}$ the width of head.

1. Occipital process extending $\frac{1}{2}$ of the distance from its base to the origin of dorsal.

a. Breadth of head $1\frac{1}{2}$ in its length, interorbital width 4 3. *nicaraguensis*.

b. Breadth of head $1\frac{1}{5}$ to $1\frac{2}{5}$ in its length, interorbital width $2\frac{3}{5}$ to $3\frac{1}{4}$.

α. Pectoral spine $\frac{1}{3}$ the length of head; least depth of caudal peduncle 3 in the length of head 4. *boucardi*.

β. Pectoral spine $\frac{2}{5}$ to $\frac{1}{2}$ the length of head; least depth of caudal peduncle $1\frac{3}{4}$ to $2\frac{1}{2}$ in the length of head.

* Length of snout $2\frac{3}{5}$ to $2\frac{3}{4}$ in the length of head, which is $4\frac{1}{2}$ to $4\frac{3}{4}$ in the length of the fish (in specimens measuring up to 280 mm.) 5. *wagneri*.

** Length of snout $2\frac{3}{4}$ to 3 in the length of head (in specimens measuring up to 280 mm.).

Breadth of head $1\frac{1}{5}$ in its length, which is $4\frac{3}{5}$ in the length of the fish; least depth of caudal peduncle $1\frac{3}{4}$ in the length of head 6. *petenensis*.

Breadth of head $1\frac{1}{3}$ to $1\frac{2}{3}$ in its length, which is $3\frac{4}{5}$ to $4\frac{2}{5}$ in the length of the fish; least depth of caudal peduncle 2 to $2\frac{1}{2}$ in the length of head 7. *guatemalensis*.

2. Occipital process extending $\frac{2}{3}$ of the distance from its base to the origin of dorsal; interorbital width $2\frac{2}{3}$ to $3\frac{1}{3}$ in the length of head.

Maxillary barbel extending to origin of adipose fin; pectoral spine $\frac{2}{5}$ to $\frac{1}{2}$ the length of head 8. *godmani*.

Maxillary barbel extending to middle of dorsal fin; pectoral spine $\frac{1}{3}$ the length of head 9. *microptera*.

3. Occipital process extending $\frac{1}{3}$ of the distance from its base to the origin of dorsal; interorbital width 4 in the length of head 10. *managuensis*.

II. Caudal fin with a moderately deep notch, but the middle rays more than $\frac{1}{2}$ as long as the longest.

A. Occipital process extending $\frac{2}{7}$ of the distance from its base to the origin of dorsal; pectoral spine $\frac{2}{5}$ to $\frac{1}{2}$ the length of head.

Pectoral spine with a finely serrated inner edge and a series of antrorse denticulations on the outer edge; maxillary barbel reaching origin of adipose fin (in a specimen of 105 mm.); anal of 10 rays 11. *heteracantha*.

Pectoral spine with serrated inner and entire outer edge; maxillary barbel reaching middle of base of dorsal fin (in a specimen of 115 mm.); anal of 13 rays 12. *hypselura*.

B. Occipital process slender, extending $\frac{1}{4}$ of the distance from its base to the origin of dorsal; pectoral spine nearly $\frac{2}{5}$ the length of head; maxillary barbel extending to basal part of pectoral (in specimens measuring up to 190 mm.) 13. *brachycephala*.

C. Occipital process short, triangular, extending $\frac{1}{5}$ or $\frac{1}{6}$ of the distance from its base to the origin of dorsal; pectoral spine from less than $\frac{1}{3}$ to nearly $\frac{2}{5}$ the length of head.

1. Humeral process not reaching middle of pectoral spine; length of adipose fin $3\frac{2}{3}$ to $4\frac{1}{4}$ in the length of the fish; anal of 11 or 12 rays. 14. *underwoodi*.