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BANGUS DEBONING

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'Our Business is Industry…"

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MILKFISH (*BANGUS*) DEBONING

Milkfish deboning is best learned from actual demonstration which the Bureau of Fisheries and Aquatic Resources obligingly demonstrates at regular occasions. The acquisition of the skill is best supplemented by reading the procedure as follows:

The milkfish may or may not be scaled. The fins, particularly the anal fin, are trimmed off by making a small cut around the base of the large fins. A sudden pull forward removes the fin bones and many of the nuisance bones. A pair of kitchen scissors may be used to snip off the fins.

The fish is then split down the dorsal side. The knife is turned flat and make an extended cut from the tail to the head by running the edge of the knife along the backbone. The fish is thus laid open like a butterfly fillet. The gills and viscera are then removed. To remove the backbone, the fish is laid flat on its open skin. Hold the knife horizontally and insert the tip of the knife's blade along the backbone from head to tail. Remove the backbone with as much rib bones as possible with the fingers. Wash the fish thoroughly in a clean running water.

The fish is then laid flat on a shallow tray. With the use of forceps, the remaining rib bones (pleural) are pulled out easily because these are located superficially.

Dorsal Intermuscular Spines. A superficial slit is made along the dent of the dorsal muscle and the intermuscular[1] spines embedded from the head to the tail are pulled out with the forceps. There are 43 to 44 epaxial intermuscular bones found in each side of the dorsal muscle.

[1] Intermuscular means in between the muscle

Starting from the head portion where the muscles are thickest, are heavily branched. Branching gradually decreases to single spines towards the tail portion. There are actually 31 branched spines and 13 unbranched spines on each side of the fish. The last six to seven single unbranched spines found in the tail region are parallel to the axis of the body, corresponding to the position of the muscle masses of this region. They are much attached to the muscle tendon making their removal difficult. They may be removed with some ease by making a horizontal slit along the tail portion.

Ventral Intermuscular Spines. The spines in the ventral side are removed in the same manner. They are approximately 22 to 24 spines found in each side of the fish in between the muscle segments. They are called hypaxial intermuscular bones or spines which are not branched as the epaxial intermuscular bones.

Lateral Intermuscular Spines. Along the lateral line, that is, the junction of the dorsal and ventral muscle, filamentous Y-shaped spines are similarly removed. Starting from the operculum, there are two large arch-shaped spines followed by approximately 19-Y-shaped spines and ending in three single delicate spines in the mid-portion of the body on each side of the fish.

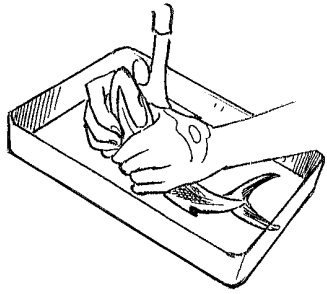
By knowing the approximate total number of bones inter-meshed in the milkfish muscle that has to be removed in the deboning process, one can count them as they are being removed. Hence, one can determine more or less if the deboning is complete or not. In summary, there are approximately 170 to 180 intermuscular spines broken down as follows: 86 to 88 epaxial (dorsal); 44 to 48 hypaxial (ventral); and 40 to 44 Y-shaped spines (lateral). It should be noted that it is quite difficult to guarantee a completely boneless produce hence it should be termed as "boneless" bangus.

Raw Material: fresh *bangus* (preferably of the size corresponding to 3 pcs./kg)

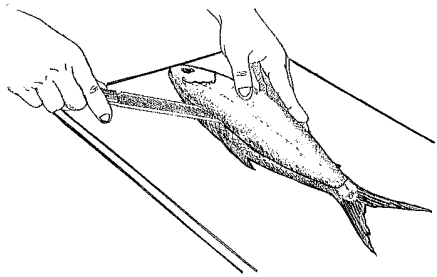
Utensils: knife, mosquito forceps, chopping board, utility tray, basin

Procedure:

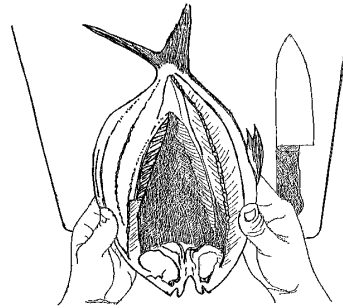
1. Wash fish thoroughly with clean water and drain. For frozen *bangus*, thaw fish before use. Scales may not be removed.



2. Split fish on the dorsal or back side starting from the tail to the head by running the edge of the knife along the backbone.

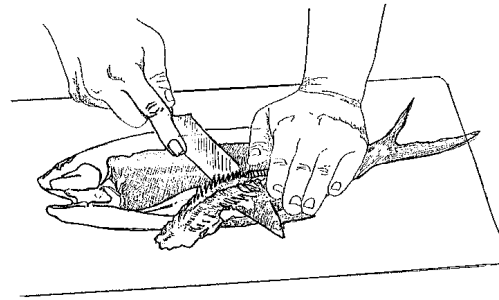


3. Lay fish open like butterfly fillet. Remove gills and internal organs.

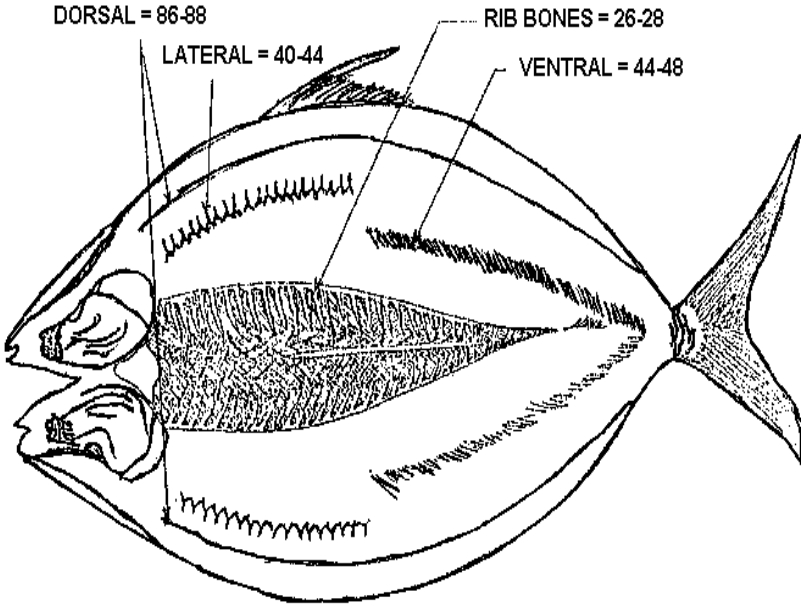


4. Wash fish to remove blood and dirt. The black membrane covering the belly cavity may or may not be removed depending upon the consumer's preference. Wash fish thoroughly.

5. Remove backbone by laying fish flat on the cutting board with the skin down. Hold the knife in a horizontal/slanting position and cut in with the tip of the blade along the backbone from head to tail. Trim off the dorsal fin.



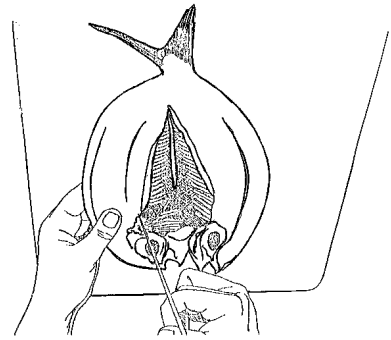
6. Lay the fish flat on the tray and approximate for the exact location of the spines most especially the intermuscular spines.



TOTAL NUMBER OF SPINES = 196-208

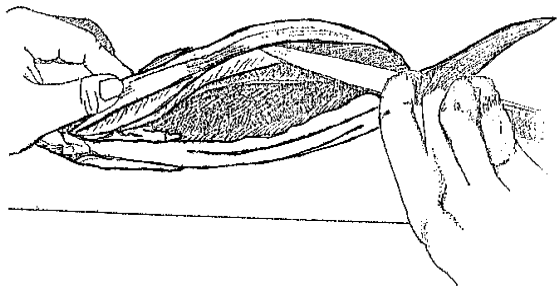
LOCATION OF SPINES

7. Place the fish in a shallow tray. With the aid of a mosquito forceps, start removing the rib bones, the bones located in the belly cavity. They are visible and are superficially embedded thus easy to pull out.

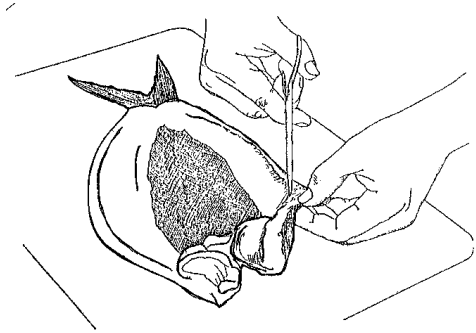


8. Remove the dorsal intermuscular (between muscles) spines.

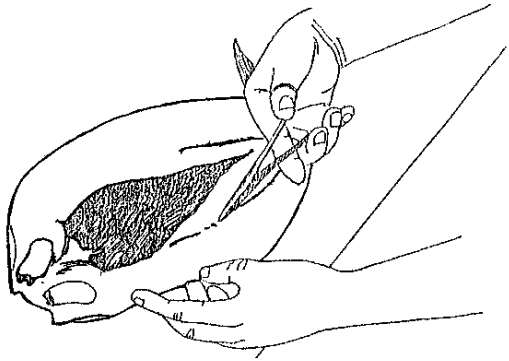
   8.a Make a superficial slit along the dent of the dorsal muscle from the head to the tail. The spines on the head portion are branched spines while the rest are unbranched. The spines on the tail portion are more attached to the muscle tendon.



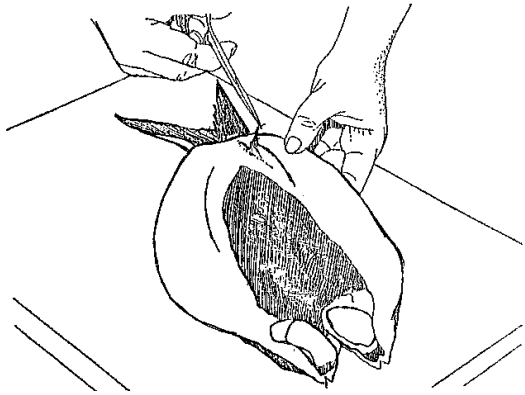
8.b Pull out the embedded intermuscular spines one at a time from head to tail.



9. Remove the lateral intermuscular spines located in-between the dorsal and ventral muscles. Pull out first the large arch-shaped spines at the base of the operculum. Proceed pulling out the Y-shaped spines up to the mid-portion of the body ending with 3 single delicate spines.



10. Remove the ventral intermuscular spines – make a shallow slit along the dent between the muscle segments of the ventral side from the mid-portion of the body to the tip of the muscle in the tail. Pull out the first 2 very fine and delicate spines found in the mid-body which is the start of the spines located in this portion. Proceed to the tail region.



11. Pack the deboned *bangus* in polyethylene bags, preferably 0.002-inch thickness, seal and freeze.

    Deboned *bangus* may be cooked or processed as dried, smoked and marinated.

Source: Bureau of Fisheries and Aquatic Resources, DA