

BIOLOGY 110
REPORT - Akule Fishing

My report is on akule fishing with handline on a boat. This technique is not as productive as net fishing but, generally, the quality of the fish caught is better. The fish is less bruised and the color is more blue and silver instead of green and gray as netted akule.

GENERAL INFORMATION

The akule belongs to the genus *Trachurops* Gill. It is known as big-eyed scad to western fisherman and "aji" to Japanese fisherman. It is a very delicious fish but is also very good when used as bait either cut or whole for catching other game fish. It is best eaten as salted dried fish but is also good when fried, baked, steamed, or even raw. The following is an article taken from "The Shore Fishes of Hawaii" and gives the scientific information of the Akule.

140. *Trachurops crumenophthalma* (Bloch). "Akule;" "Halalalu." Fig. 71.

Head 3.4 in length; depth 3.5; eye 3.2 in head; snout 3.3; maxillary 2.3; interorbital 4.5; D. VII-1, 26; A. II-1, 22; scutes 35.

Body oblong-elongate, little compressed, the back not much elevated; head long, rather pointed, the lower jaw somewhat projecting, maxillary reaching middle of pupil, slipping under the preorbital, exposed portion triangular, posterior portion somewhat wavy; eye very large, longer than the snout and greater than the interorbital width; adipose eyelid strongly developed; mouth moderate, somewhat oblique; a single series of small teeth in each jaw, very weak teeth on vomer and palatines; a small patch of teeth on tongue; shoulder-girdle near isthmus with a fleshy projection, in front of which is a deep cross furrow; an angle at lower posterior portion of opercular region as in *Chupea*; dorsal spines moderate, their length 2 in head, the fin folding in a groove; dorsal rays low, scaled at base, folding in a groove; anal low, resembling soft dorsal, longest rays 2.6 in head; free anal spines strong, their length 2 in eye; caudal small, forked, the lobes equal, 1.6 in head; pectoral moderately

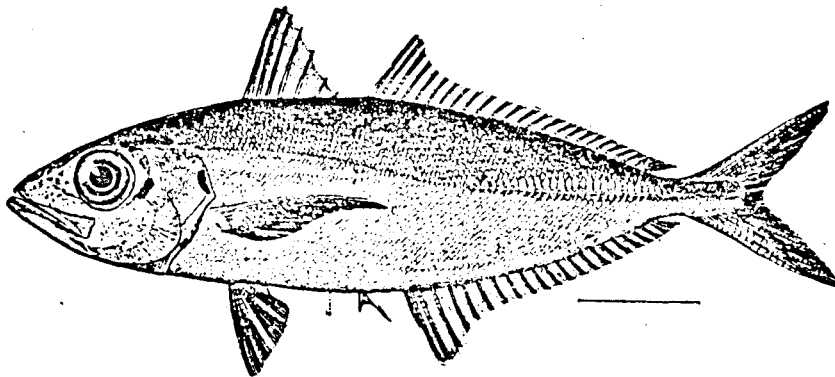


FIG. 71.—*Trachurops crumenophthalma* (Bloch); after Jordan and Evermann.

long and falcate, 1.25 in head; ventrals barely reaching vent, 2 in head; scales small; lateral line nearly straight, the scutes little developed except on caudal peduncle; cheeks and breast scaly.

Color in alcohol, bluish silvery above, paler below, with brassy reflections, under parts white; dorsal and caudal fins somewhat dusky; other fins pale.

The above description based upon a specimen (No. 02924) 12 inches long from Honolulu.

An abundant and well-known species, next to the *ulua* and the *amaama* the most important food fish of Honolulu. It was obtained in 1889 by Dr. Jenkins, and has been recorded from the Hawaiian Islands by Günther, Steindachner, Fowler, and Snyder. Numerous specimens were obtained by us at Honolulu, Kailua, Hilo, Hoopuloa, and Hanalei Bay, Kauai, varying in length from 5 to 12.25 inches.

cont. - REPORTFISHING CONDITIONS

Akule fishing on a boat is done at night when there is no moon. It seems that moonlight scares the fish and causes them to scatter about, resulting in low or even no-catches. The best catches are made 4-5 days after the full moon up to the new moon phase. The catch after the new moon till the $\frac{1}{2}$ moon phase is somewhat lower.

Since fishing is done at night, cloud factor is not a factor. However, winds can disturb the fishing if it blows in the opposite direction as the current. Gentle winds is somewhat better than no wind at all.

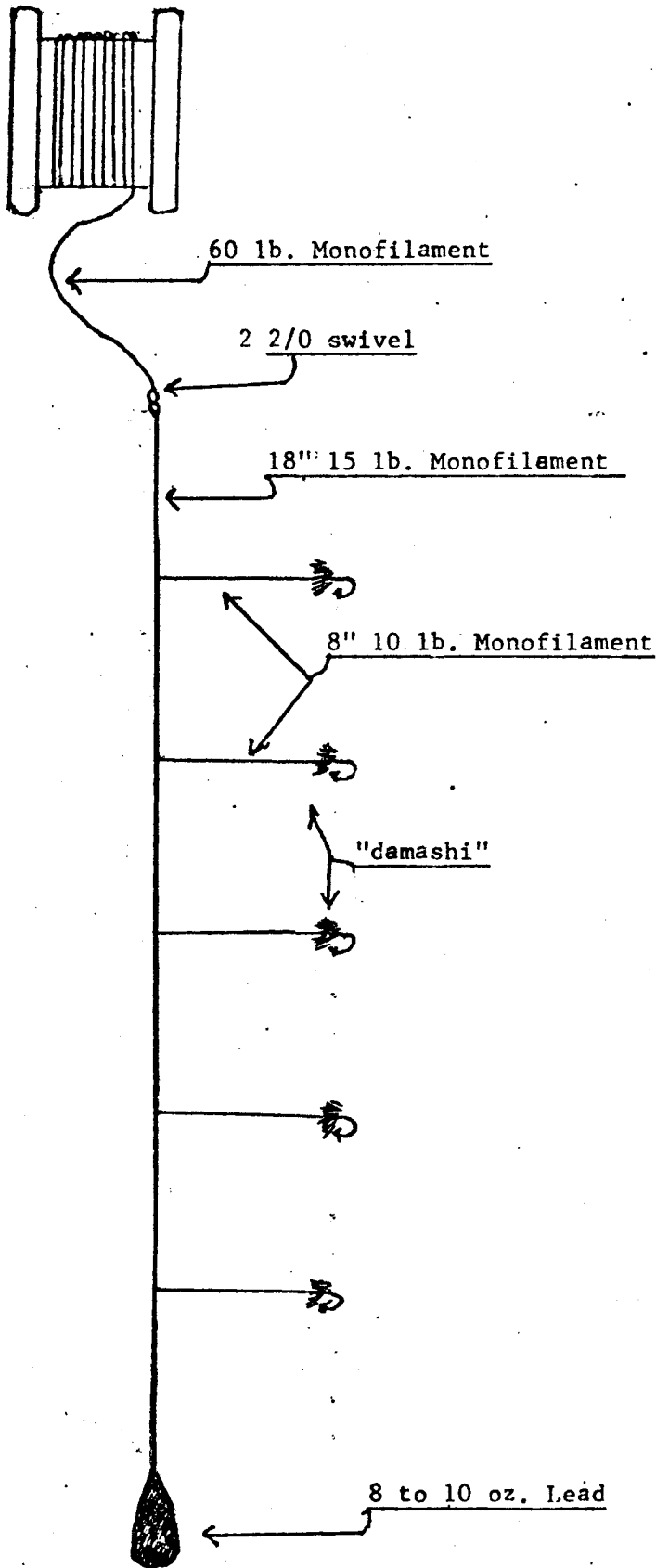
Current is important as very few fish is caught when no current is flowing. The opposite (strong, fast current) results in the same low yield. Generally a moving (gentle) current with gentle winds blowing in the same direction is the most ideal condition. This is true whether the boat is anchored or not.

Early evening and early morning seems to be the best time for fishing.

FISHING METHODS (GEAR AND EQUIPMENT)

Akule are found from 20 fathoms (120 feet) and deeper depths. (Some akule are found in areas where no bottom reading is recordable). A Depth Recorder is a good instrument to have but is not necessary. When fishing for akule, some fisherman use cut bait of ika (cuttlefish) or fresh nehu but "damashi" (lures) are just as effective and less troublesome. Mustad straight shank hook of sizes #5 to #6 are the most popular style used by fisherman. The lure is made of nylon fibers and red thread. The handline is made of 60 lb. monofilament up to 300 ft long. Leader lines vary from 15 lb. to 10 lb. test monofilament. Multiple hook rigs are used from 4 to 6 hooks. The following is a typical set.

cont. - REPORT



DAMASHI (LURE)



LEADER LOOP EXAMPLE



cont. - REPORT

The depth at which the akule is swimming usually is between 10-15 fathoms (60 to 90 feet). Halalu(young akule) range between the boat and 10 fathoms below.

FISH PRESERVATION

Upon removing the fish from the hook, it is placed immediately into brine(1 part saltwater and 3 parts ice)- recommended by State Fisheries). This causes the fish to become stiff and firm. The color remains silver with blue tints. This icing seems to increase the holding time of the fish(before eating) and the flesh does not become soft and mushy.

To keep the fish overnight, it is best to pack the fish in ice with no water. This is done by placing a layer of flaked ice between each layer of fish in an insulated cooler.