



Virginia Institute of Marine Science

# MARINE RESOURCE ADVISORY

A SEA GRANT ADVISORY SERVICE

Gloucester Point, Virginia 23062

## CANCER CRABS: AIDS TO IDENTIFICATION

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Commercial fishermen, as well as buyers and shippers of crabs and lobsters in the Chesapeake Bay region, historically have misidentified or have confused the common names of three species of edible crabs—the rock crab, the jonah crab and the stone crab. This confusion has led to misidentification of landings and subsequent incorrect documentation in fishery statistics.

This advisory is designed to acquaint people with the species involved in the confusion and their accepted common names. The aids to identification should promote more accurate reporting of catch landings in the future.

### ROCK CRAB, *CANCER IRRORATUS*

This species ranges from Nova Scotia to the South Atlantic states. It is found in shallower water in the north and deeper (to 541 meters, equal to 295 fathoms) in the south, but it commonly occurs between 15 and 150 meters (8 to 80 fathoms) in the Chesapeake Bight. This species migrates into Chesapeake Bay in late autumn, molts in January and leaves the bay by May. It grows to a width of 130 mm (5 inches) and may weigh as much as 200 g (7 ounces.)

The ivory-colored carapace is oval (Fig. 1), and covered with small purple spots. This color pattern may be masked by the growth of a fleshy organism, *Alcyonidium*, commonly known to bay fishermen as "pustly". The edges of the marginal teeth of the shell are smooth. The moderate size claws are described in Table 1 and shown in Fig. 2.

The rock crab, which has local commercial potential as a source of soft crabs during the winter, has been locally referred to as the "stone" crab. It is

captured in the winter dredge fishery in Chesapeake Bay, in the sea bass pot fishery operating along the coast of the Eastern Shore of Virginia during the summer months, and in lobster traps. This fishery

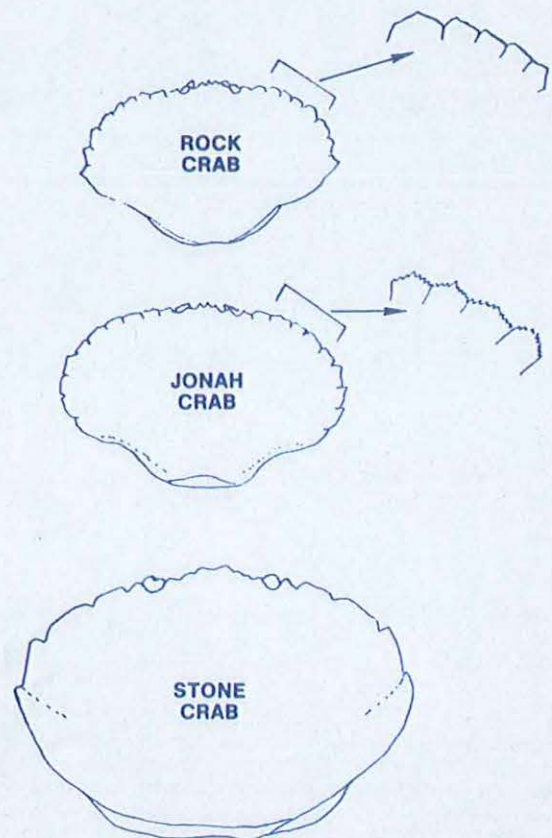


Figure 1. Comparison of the carapace of rock, jonah and stone crabs.

represents a potential source of hard rock crabs which could be marketed whole or as picked crab meat.

**JONAH CRAB, *CANCER BOREALIS***

This crab occupies the same range as the rock crab, but is more commonly found in deeper water (75 to 400 meters; 41 to 225 fathoms) in Chesapeake Bight. It is rarely captured in Chesapeake Bay. A large crab, it grows to a width of 160 mm (6.5 inches) and a weight of 600 g (21 ounces).

The carapace of the j Jonah crab is brick red and rough in texture. The large marginal teeth possess smaller teeth on their margins (Fig. 1). The claws are larger in relation to body size than those of the rock crab (Fig. 2, Table 1).

This crab, which is captured in commercial lobster traps and sea bass pots set in Chesapeake Bight, has been landed commercially under the incorrect names "stone crab" and "rock crab". Claws have retailed as "canyon claws".

**STONE CRAB, *MENIPPE MERCENARIA***

This species is most often confused with the j Jonah crab because of the similar massive claws (Fig. 2). It ranges from North Carolina to the Gulf of Mexico and to the Bahamas and Jamaica, where it is found in relatively shallow water (intertidal to 28 fathoms) of embayments.

The oval carapace (Fig.1) is dark purplish-blue in young crabs; brownish-red with flecks of gray in adults. In relation to body size, the claws are larger than those of the j Jonah crabs.

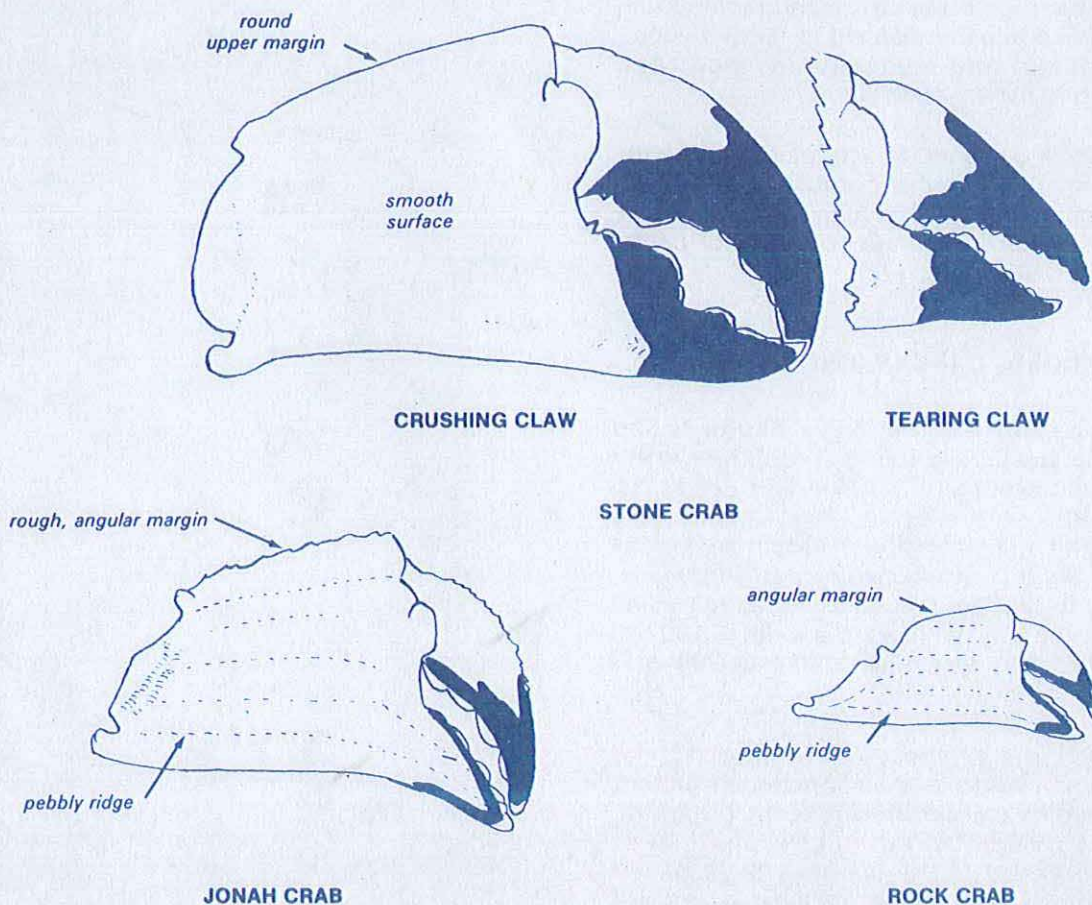


Figure 2. Comparison of the outer surface of the claws of stone, j Jonah and rock crabs.

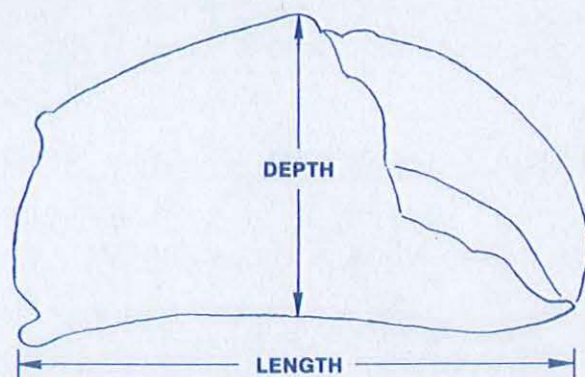
Species	Claw Size	Texture of Claw	Color	Teeth
Jonah Crab <i>Cancer borealis</i>	Massive claw, twice as large as claw of rock crabs of similar body size. Claw smaller than that of stone crab. Claw depth greater than one-half claw length. (See Figure 3)	Rough, large grains on ridge of upper margin of claw and movable finger; pebbly ridges running the length of the outer surface of claw. Upper margin angular.	Lower one-third to one-half of finger length black.	Large, about five on movable finger, four on fixed finger. Both claws alike.
Rock Crab <i>Cancer irroratus</i>	Small claw, rarely longer than 2-½ inches on 5-inch crab. Depth less than one-half claw length.	Smooth grains; margins and ridges pebbly. Upper margin angular.	As above.	Small, about seven on movable finger, six on fixed.
Stone Crab <i>Menippe mercenaria</i>	Massive claw, usually larger than those of Jonah crab. Claws of two sizes on same crab, Major (Crushing) and Minor (Tearing). Depth less than one-half claw length.	Surface of claw completely smooth. Upper margin rounded.	Black color extends from one-half to three-fourth the length of the fingers.	Crushing claw: One massive tooth followed by five to seven smaller teeth on movable finger. One massive and three to four smaller teeth on fixed finger. Tearing claw: Six to seven moderate teeth on both fingers.

Table 1. Comparison of claws of three species of crabs, frequently confused with one another.

This crab is mentioned because it is the species with which the jonah crab and rock crab are confused. It is not captured in Virginia waters, but supports a sizeable fishery along the South Atlantic and Gulf states.

#### REFERENCES

- Haefner, P.A., Jr., W.A. Van Engel and D. Garten. 1973. Rock crab: A potential new resource. Virginia Institute of Marine Science Marine Resources Advisory Series No. 7, 3 p.
- Leary, Sandra P. 1967. The crabs of Texas. Texas Parks and Wildlife Department Bulletin No. 43, 57 p.
- Rees, G. H. 1963. Edible crabs of the United States. U.S. Department of the Interior, Bureau of Commercial Fisheries. Fishery Leaflet 550, 18 p.
- Wilder, D. G. 1966. Canadian Atlantic crab resources. Fisheries Research Board of Canada, Biological Station, St. Andrews, New Brunswick General Series Circular No. 50, 6 p.
- Williams, A. B. 1965. Marine decapod crustaceans of the Carolinas. U.S. Fish and Wildlife Service Fishery Bulletin 65(1):1-298.



Depth of Claw: measured from process at top of joint of movable finger to the curvature of the lower margin of the claw, perpendicular to axis of claw length.

Claw length: measured from the tip of the fixed finger, along the lower margin of the claw, to the process at the joint with the next segment.

Figure 3. Crab claw depth and length dimensions.



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