

by Michael P. Seki

Valid name *Epinephelus quernus* Seale 1901 (Fig. 49)
Synonymy None
Common and vernacular names Seale's grouper; grouper; sea bass; hapuupuu

Distribution

Known only from Hawaiian waters (Tinker 1978). Present at all islands and banks from Middle Bank to Bank No. 11 at depths from 18 to 230 m. Large numbers observed in waters as shallow as 5 m at Kure Atoll and Midway (Hobson 1980). No pattern of spatial distribution by age and size shown (Ralston 1980).

Distinguishing characteristics

D. XI, 14-15; A. III, 9; Pc. 19; P1. I,5; Gr. 7+16 (Seale 1901; Jordan and Evermann 1905). Body oblong, girth greatest posterior of nape becoming laterally compressed caudad; covered with small ctenoid scales; posterior edges of dorsal and anal soft rays and caudal fin rounded.

Like other groupers, this species has a large protractile mouth with maxillary reaching posterior of the orbit. Preoperculum is finely serrated along upper edge.

In life, varies from purplish brown to nearly black, they may be covered, particularly along the sides, with small light blue or white spots. Differences in body color between individuals may be attributable to physiological stress, behavioral responses, or the environment.

Life history

Little is known about this species. The spawning period of hapuupuu has not been determined throughout the Hawaiian chain; however, ovaries with hydrated eggs have been collected from January through early April in the NWHI indicating winter spawning in that area (Uchiyama and Tagami 1984; Kikkawa⁸). Other aspects of reproduction such as fecundity, number of spawnings per season, and hermaphroditism remain to be examined.

Hapuupuu are carnivorous, opportunistic bottom feeders (Seki 1984a). Among spew samples analyzed, pandalid shrimps, lutjanids, emmelichthids, and conger eels were most important. Cephalopods (mainly octopods) and crabs also occurred among the forage items.

A functional length-weight relationship of 547 hapuupuu ranging from 23.8 to 110.6 cm is:

$$W = 9.29 \times 10^{-9} L^{3.1028},$$

where W = weight (kg) and L = total length (mm) (Uchiyama et al. 1984).

Gear and catch

This species is usually taken with handline although it is also caught incidentally in traps and pots. Hapuupuu is the only serranid contributing significantly to the commercial landings in Hawaii. During 1961-79, the annual landings ranged from 9,311 to 33,799 kg, averaging 17,725 kg. The species ranked 21st among commercial marine species landed during this period.

⁸Kikkawa, B. S., Research Assistant, Southwest Fish. Cent. Honolulu Lab., Natl. Mar. Fish. Serv., NOAA, Honolulu, HI 96822-2396, pers. commun. May 1982.

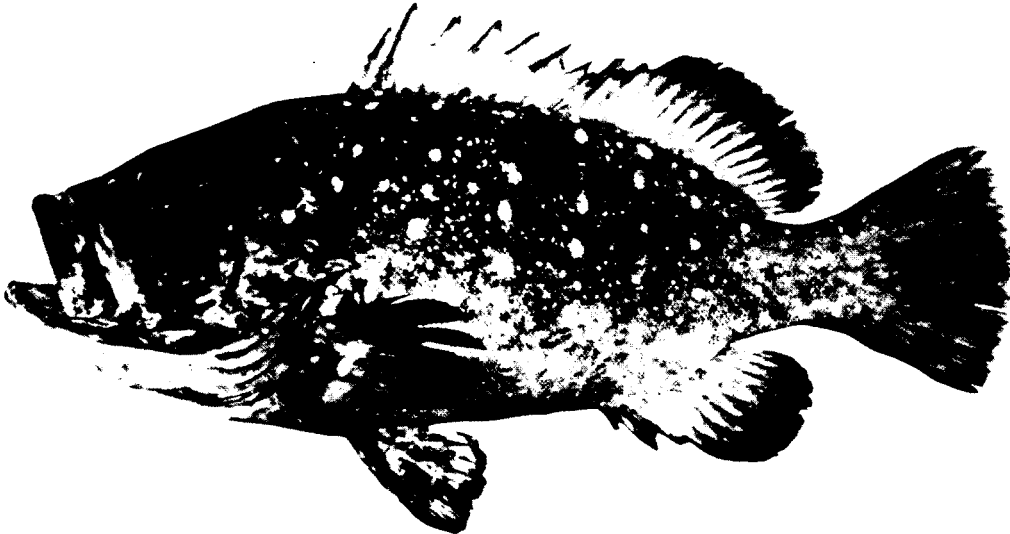


Figure 49.—*Epinephelus quernus*.