

by James H. Uchiyama

Valid name	<i>Euthynnus affinis</i> (Cantor 1850) (Fig. 72)
Synonymy	<i>Thynnus affinis</i> Cantor 1850 <i>Thynnus thunnina</i> Temminck and Schlegel 1850 <i>Auxis taso</i> Bleeker 1850 <i>Euthynnus allettera</i> Jordan, Tanaka and Snyder 1913 <i>Euthynnus yaito</i> Kishinouye 1923 <i>Gymnosarda alletteratus</i> Meek and Hildebrand 1923 <i>Wanderer wallisi</i> Whitley 1937 <i>Euthynnus affinis affinis</i> Fraser-Brunner 1949 <i>Euthynnus affinis yaito</i> Fraser-Brunner 1949 <i>Euthynnus alletteratus affinis</i> De Beaufort 1951 <i>Euthynnus wallisi</i> Whitley 1964 (from Yoshida 1979)
Common and vernacular name	Little tuna; kawakawa

Distribution

Occurs around the main islands and in the NWHI from Middle Bank to Kure Atoll.

Completes its entire life cycle within the coastal province. Larvae captured in midocean probably carried away from coastal areas by prevailing currents (Yoshida 1979).

Distinguishing characteristics

D. XIV-XV, 12-13; A. 13-14; Gr. 7-9+1+22-24 (Godsil 1954). Body elongated, robust, and fusiform; two dorsal fins separated by a narrow interdorsal space, eight dorsal and seven anal finlets, and a lunate caudal fin. Pectoral fins not extending to interdorsal space. Body naked except for a corselet and lateral line. Snout pointed with a terminal mouth, which extends to or slightly beyond the vertical axis through the middle of the eye. Caudal keels not well developed.

In life, blue to indigo background up to the middle of the first dorsal fin on the back superimposed by black wavy lines. Top of the head and corselet black to dusky and sides of head silvery. Lower half of body silvery white. Black or dusky spots between the pectoral and pelvic fins but not always conspicuous (Godsil 1954; Fischer and Whitehead 1974).

Life history

Kawakawa is heterosexual; males and females are externally similar. There is no record of hermaphroditism. In the NWHI, milt was found in the testes of a male 40.9 cm FL, and ovaries in the developing stage were found in females as small as 38 cm FL. The spawning season is probably during the summer although spent ovaries were found in fishes captured in March and November.

Fecundity estimates of Indian Ocean kawakawa are 0.21 million eggs per spawning and 0.79 million eggs per year for a 48.0-cm fish and 0.68 million eggs per spawning and 2.5 million eggs per year for a 65.0-cm fish (Rao 1964).

Kawakawa has been induced to spawn in captivity (Kaya et al. 1981). Growth is rapid. In the NWHI kawakawa attains a length of 40 cm in 1 year and 67 cm in 2 years (Uchiyama 1980).

Kawakawa feeds opportunistically on crustaceans, fishes, and squid (Welsh 1950; Tester and Nakamura 1957).

Nothing is known about the migratory habits of the species. Because kawakawa are seldom caught beyond 20 nmi from an island or bank, they are thought to be constantly associated with coastal areas or submerged banks.

The length-weight relationship of kawakawa from Hawaiian waters is:

$$W = 2.3829 \times 10^{-5} L^{3.1544},$$

where W = weight (lb) and L = fork length (cm) (Tester and Nakamura 1957).

Gear and catch

The species frequently comprises the incidental catch of the pole-and-line skipjack tuna fishing vessels operating in Hawaiian waters. It is also taken by trolling. Annual landings of kawakawa in 1961-79 ranged from 936 to 43,862 kg and averaged 19,074 kg. The species is of minor importance in the commercial fishery in Hawaii.

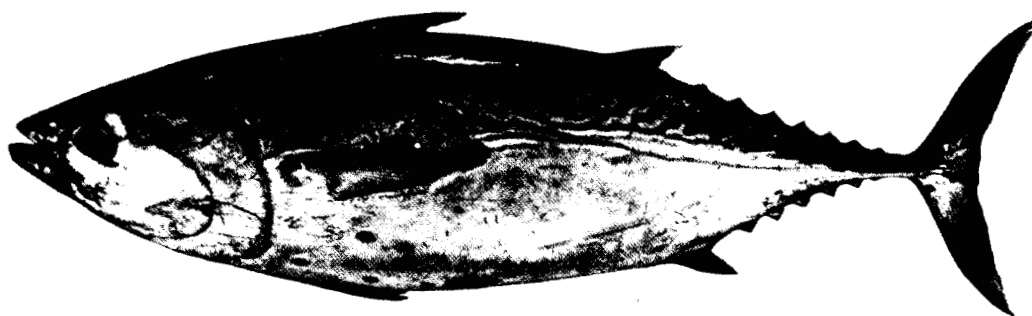


Figure 72.—*Euthynnus affinis*.