Evaluation of artificial and natural baits for the pot fishery of the sand crab Ovalipes punctatus (De Haan, 1833)

Abstract

We compared the luring effectiveness of artificial bait made from fish waste with natural baits in pots targeting the sand crab Ovalipes punctatus in the East China Sea. Bait types used were fish (mackerel), minced fish (heads of greenling) and two artificial baits made mostly from fish waste and starch. The first two need frozen storage but artificial bait does not. Three fishing operations were conducted in May 2010 and in each forty pots (10/treatment) were fastened along a bottom line. Results for the three operations had catch data for 30 pots/treatment. The number of crabs captured was 496, of which 206 (41.5%) were caught in pots containing fish, 116 (23.4%) in those with minced bait, and 93 (18.8%) and 81 (16.3%) in pots baited with the two artificial baits, respectively. Fish was significantly more attractive than minced bait and artificial baits, but no differences were detected between the other baits. Natural baits disappeared almost entirely by the time of hauling, with only 1% of the fish and 5.3% of the minced bait remaining; artificial bait remained almost intact (96.3-100%). The artificial bait catch was approximately half of that of fish bait, but it only contained 30% fish waste. Furthermore, if catch returns are calculated according to the bait's fish content their efficiency seemed higher, ranging from 88 to 100. crabs/kg of fish waste vs only 69. crabs/kg of fish.