

**Behavior of blue swimming crab
for improving slope net design of collapsible pot**
(ガザミの行動と籠の漁獲性能)

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[Objective] For improving the catch efficiency of collapsible pot for blue swimming crab (*Portunus pelagicus*), the laboratory experiment was conducted to observe the behavior of crab for approaching and escaping, with the focus how to be entrapped through the slope net with different mesh sizes.

[Methods] For the slope net of the crab pot, two smaller mesh sizes of 18 mm and 25 mm were compared with the conventional mesh size of 38 mm. The trapping efficiency was examined by the time duration of the crabs on the slope net after the first touch until being entrapped. The experiments were conducted in the laboratory tank by recording with the video camera, for the crab size of 80-100 mm carapace width. The crawling speed on the slope net was also measured with the different mesh sizes of slope net.

[Results] The time spent on the slope net for the mesh size of 18 and 25 mm tended to be shorter than that for 38 mm mesh net. Three crabs were observed to give up their attempts to enter the pots when crawling on 38 mm slope net. Average crawling speed on the tank floor was 10.3 cm/s, while average maximum crawling speed on slope net mesh size of 38, 25 and 18 mm were 5.0, 4.5 and 4.5 cm/s respectively. The crabs which passed through the slope net by crawling, and reached the ending edge of the slope net, were entrapped and never returned back. After being entrapped inside the pot, they moved around the bottom panel. This can give the idea for reducing the pot height of the conventional design. Smaller mesh size and shorter length of slope net panel, and reduction of the pot height can be the possible modification key to increase the catch efficiency.