

## STUDY ON HABITAT OF CRABS ON AMPARU TIDAL LAGOON

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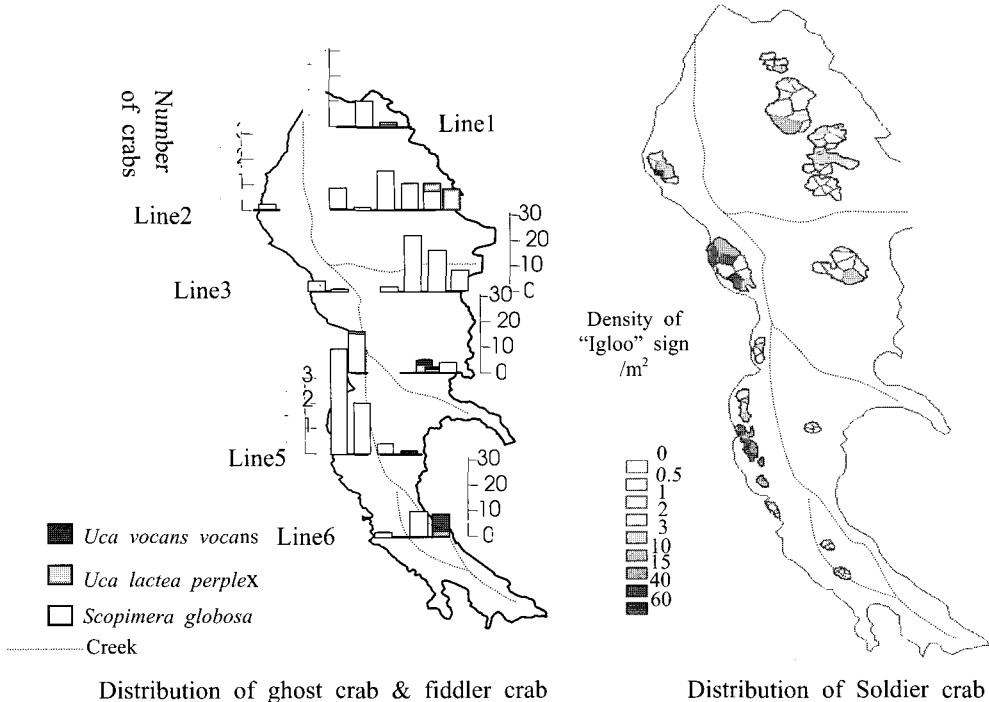
AMPARU is a large tidal lagoon located on the west coast of Ishigaki Island, where a variety of small crabs range over. In these thirty years, however, accumulation of red clay from the farmland has been changing the topography and the hydraulic characteristics of the lagoon, and then changing the environments for the crabs to habitat there.

This paper presents a result of a field survey that is the basic stage of a study to understand the spatial distribution of crabs in relation with the conditions of bed materials and hydraulic characteristics in the lagoon.

Quadrat survey in summer and burrow survey in winter were carried out in order to estimate the spatial distribution of crabs. Each kind of crabs has a typical habit of troop, burrowing and torpor. That's why two method of survey were carried out. Fiddler crabs and ghost crab are active in summer and distribute widely so that the usual quadrat survey was carried out. On the contrary, soldier crab is active in winter and they make a small troops. In addition, they have a typical burrow, so that the distribution of soldier crab is estimated with the burrow distribution.

Then statistical habitat evaluation model of each kinds were constructed. The explanatory variables are soil condition parameters, submerged time and distance to mangroves. The identified model parameters can be explained with the characteristics of each kinds and habitat decision mentioned below.

Basically all kinds prefer the location where is adequate for feeding, high organic matter content, short submerged time, found in the results of the model. In addition, Ghost crab tends to run out from the best location for feeding. It might be caused by the territorial competition. Fiddler crab has a strong territory sense, so that ghost crab expel by them. Fiddler crab prefer the location near to mangrove in order to hide themselves easily when they perceive danger. On the other hand, soldier crab doesn't insist on refuges because they have corkscrew-style digging way and don't have the fixed burrow.



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