Abstract
Panulirus gracilis is a high valuable lobster species with considerable captures along the tropical Pacific coast. In this study, I present some biological and fishery parameters described after a sample of 843 lobsters, landed in Playa Lagarto from November 2007 to October 2008. From landing records, a total of 74.9% of lobsters were below the minimum legal catch size (80mm CL). Carapace lengths were in the range of 42.8 and 143.6mm for males and 115 and 35.8mm for females. The size structure showed a wide overlapping of population segments, and a trend to increase with depth, where lung diving and "hooka" diving operations take place. Sex ratio was 1.36 M:H. The relationship between weight and LC revealed that females are heavier than males of the same size, and this difference was significant (p<0.05). The von Bertalanffy growth parameters for males and females respectively (K=0.45-0.38, LC¿=166.9-121.7) showed accelerated growth compared to other species. Males observed a higher growth rate than females. Furthermore, natural mortality (M), total mortality (Z) and fishing mortality (F) was higher in males (0.49-2.34-1.92) than in females (0.47-1.82-1.42). Recruitment was continuous for both sexes during the year, with an elevated intensity of 18.5% in July. Under the current fishing regime the population could be at risk of collapse, as indicated by the high exploitation rate (E) 0.80.

Keywords
Panulirus gracilis, fishery, Playa Lagarto, Costa Rica.