CATCH COMPOSITION, MORPHOLOGY, AND SOME ASPECTS OF REPRODUCTIVE BIOLOGY OF *Inimicus sinensis* CAUGHT BY BABY OTTER TRAWL IN CARLES, ILOILO, PHILIPPINES

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A Master's Thesis Presented
to the Graduate Faculty of the
Institute of Marine Fisheries and Oceanology
College of Fisheries and Ocean Sciences
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In Partial Fulfillment of the Requirements
for the Degree of
Master of Science in Fisheries
Major in Fisheries Biology

June 2019

ABSTRACT

The catch composition of bottom otter trawl or "baby trawl" in Carles, Iloilo, Philippines was assessed from twenty (20) hauling operation from December 2017 to February 2018. A total of 97 fish species belonging to 15 orders and 53 families were identified. Considering shrimp as target catch, commercial and discarded bycatch were estimated to be greater than 95%. Fishermen are utilizing the bycatch species, however, discarding of fish occurs during operation and high grading of catches. Venomous fishes such as scorpaenid, tetrarogid, aploactinid, and synanceid fishes were commonly thrown back to the sea.

The morphology of the synanceid fish, which comprises part of the discarded bycatch, was also described. *Inimicus cuvieri* (Gray, 1835) and *Inimicus sinensis* (Valenciennes, 1833) were morphologically alike. However, comparison between sexes of *I. sinensis* showed secondary sexual characteristics. Thirty-three morphological measurements, including standard length and fourteen meristic counts were made on 99 specimens (47 male and 52 female). Most morphometric characters differed significantly between sexes while no differences were found in meristic counts. Fish external features were longer in male specimens. The head and body region were bigger in female specimens. Factor analysis, Principal Component Analysis (PCA), extracted two principal components from the significantly different parameters that explained 62.29 % of the cumulative variances. Variables that caused the variation in two major components were head width, upper jaw, lower jaw, snout, pre anal fin, and anal fin base lengths in PC1 (45.65 %); and orbit diameter and anal fin base length in PC2 (16.64 %). These differences seem to be connected with their adaptation to environment, reproduction, and behavior. Additionally, a single pore at the anterolateral surface of the body and pores above the lateral line are also described here but association to other organs were not yet found.

Finally, studies on some aspects of reproductive biology of *I. sinensis*, which dominates the fishing ground, were also conducted. Gonadosomatic index (GSI) and size of females at 50% maturation were determined by logistic method and by plotting the GSI with standard length. Fecundity was calculated from 49 mature individuals through subsampling at different gonad lobes. The size at 50% maturity was estimated to be 127.2 mm, using the logistic model, which was likely supported by the abrupt increase in GSI values above 125 mm SL. Fecundity was estimated at 47 187±25 009 oocytes for fish sized 115.33–194.57 mm. Both GSI and fecundity showed low correlation to fish length. Additionally, the histological analysis of the gonad showed that this fish is gonochoristic and multiple spawner.

Keywords: bycatch, discards, sexual dimorphism, GSI, fecundity