

A COMBINED METHODOLOGY FOR ASSESSMENT OF THE COMMON DENTEX (*DENTEX DENTEX*) IN THE NORTHERN CORSICA (FRANCE)

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Abstract

The common dentex represents a great economic interest for the artisanal fishing in Corsica (France). A combined sampling approach was developed using logbooks and boardings on 11 fishing vessels in the region Bastia-Cap Corse. The purpose of this paper is to evaluate the complementarity and reliability of the methods used (logbook, boarding weighing and size class) for assessing fishing of the common dentex in the Northern Corsica (France). The implications of such methodological approaches for fisheries assessment are discussed.

Keywords: Fisheries, Monitoring, Corsica Trough

Introduction and Methods

In the Mediterranean Sea, artisanal fisheries are characterized as commercial fishers operating in small boat and targeting a high diversity of species [1]. The common dentex *Dentex dentex* (Linnaeus, 1758) is considered as a "noble" species and represents high commercial value for the artisanal fisheries [2], [3]. Under the program Marittimo: Marte +, 11 individual "logbooks" were distributed to fishermen representative of the artisanal fishing activity of the "Bastia-Cap Corse" fishing management area. These logbooks allowed a monitoring of their activity during the fishing season from April to October 2012 based on daily catch declaration. In addition, 38 boardings were conducted by scientists on vessels of these fishermen. The "boarding weight" was calculated using individual weight measured onboard using a spring balance (accuracy 0.4 g). A "boarding size class" weight estimation was calculated using the biometric relationships (size-weight): Small (0-40 cm = 0,5971 kg), Middle (40-60 cm = 2,7791 kg), Large (60-80 cm = 7,6515 kg) [4], this estimation method being the most used in the Corsican fisheries monitoring.

Results and Discussion

A total of 40 common dentex were sampled over the study period. Results showed a significant difference between these three catch data (Friedman test, $p = 0,018$), on average in comparison with the "boarding weight" catch, an overestimation of 40% of the "boarding size class" catch and underestimation of 40% of the "logbook" catch. It might be interesting to refine knowledge of the biometric data of common dentex, in order to increase the reliability of the estimated values from these size classes. For "logbook" data, results were heterogeneous during the season and between the fishermen. Generally, fishermen do not enroll the small catches (<2 kg /day) that are not commercialized, this fact could explain this underestimation. The main advantage using fishermen logbook is their usefulness for monitoring the fishing effort according to the seasons. The interest to combine these methods is to obtain a better estimate of the production of common dentex, over the seasons, and to provide tools for fisheries assessment for integrated management and sustainable use of fisheries resources in Corsica.

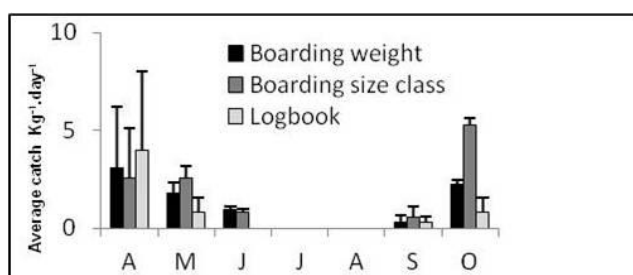


Fig. 1. Comparison of the average catch "boarding weight", compared with the average catch "boarding size class" estimation (all size classes combined) and average catch "logbook" during the fishing season (April-October 2012) for common dentex.

References

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