

Species composition of the unintentional catch from wells in tropical tuna purse seine fisheries

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Introduction

During the landing and since January 2021, a random sampling protocol has been followed by the Spanish tropical tuna sampling team in port, in order to record catch at size of unintentional catch, which were found in wells and landed together with commercial tunas by Spanish tropical tuna purse seiners.

After practically a year of samplings, more than 8500 records have been collected. Each fish (or group of them, in the case of little fishes) has been identified and associated to a size, an estimated weight (following the size-weight formulas from fishbase.org), catch area, catch type (log or free school) and sex in the case of chondrichthyans (mostly *Carcharhinus falciformis* and to a lesser extent *Pteroplatytrygon violacea*).

The main aim of the accidentally uploaded bycatch sampling protocol performed is to get a complete overview of accidental catches together with the data collected on board by the observers.

Material and Methods

During the current performing of tropical tuna sampling protocol, a reasonable break (generally one hour) must be expected between the different subsamples that are carried out in each well. In this period of time, all the accessory species that the stevedores have deposited next to the wells are sampled, so it is easy to determine the individual origin of most of the fishes. Occasionally, stevedores separate some pieces for their own consumption, in such a way that we cannot determine the exact origin of the fish. In such a case, the origin of the species is determined as unknown.

During the sampling, all the bycatch species found in the well deck are measured with the exception of individuals of *Canthidermis maculata*, *Aluterus monoceros*, *Decapterus macarellus*, *Diodon histrix*, *Uraspis helvola* and *Kyphosus cinarescens*, owing to their great relative abundance in the bycatch observed in the unloaded wells and its small size. In this case, individuals have been counted.

Preliminary Results

The **Figure 1** shows the frequency of the most common bycatch species observed in the wells by the sampling team in port. The **figures 2 to 5** show the size frequency

observed, by size class of the most common species i.e., *Acanthocybium solandri*, *Coryphaena sp.*, *Elagatis bipinnulata*, and *Carcharhinus falciformis*, respectively.

The **figure 6** shows Sex frequency of *Carcharhinus falciformis* individuals observed in the wells.

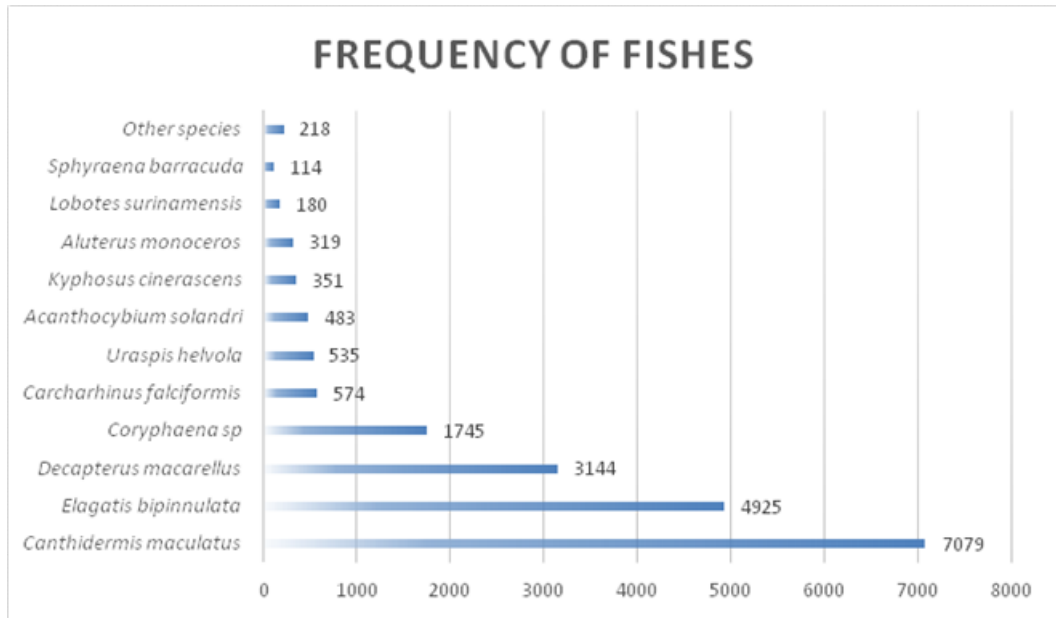


Figure 1. Frequency of the most common unintentional catch species observed in the wells.

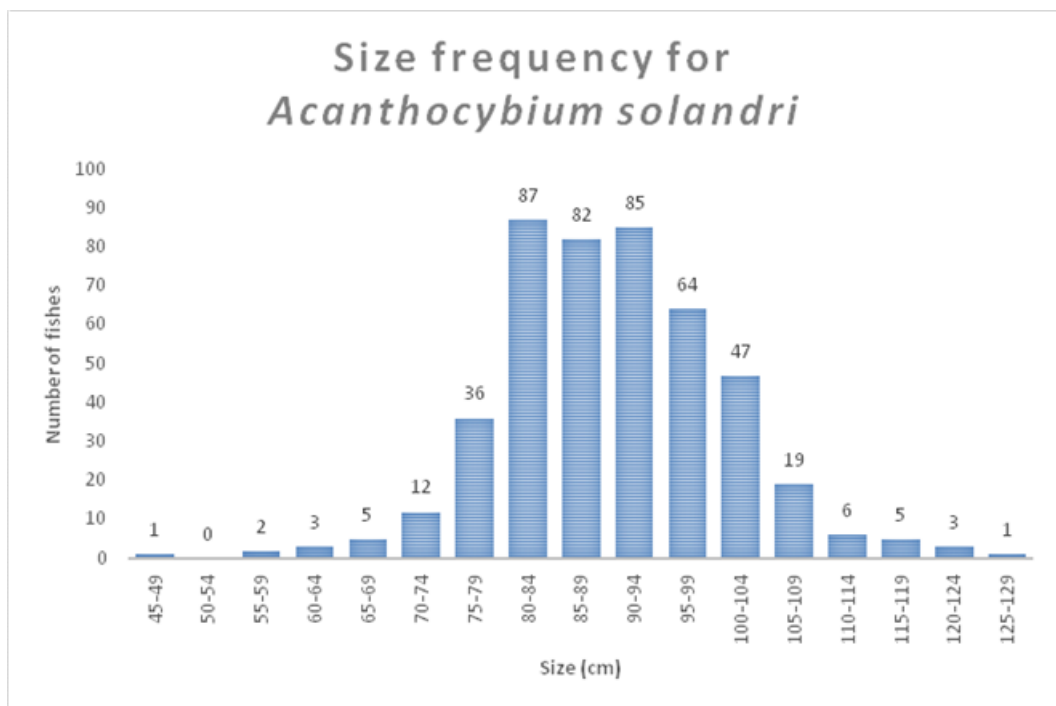


Figure 2. Size frequency of *Acanthocybium solandri* individuals recorded by size class.

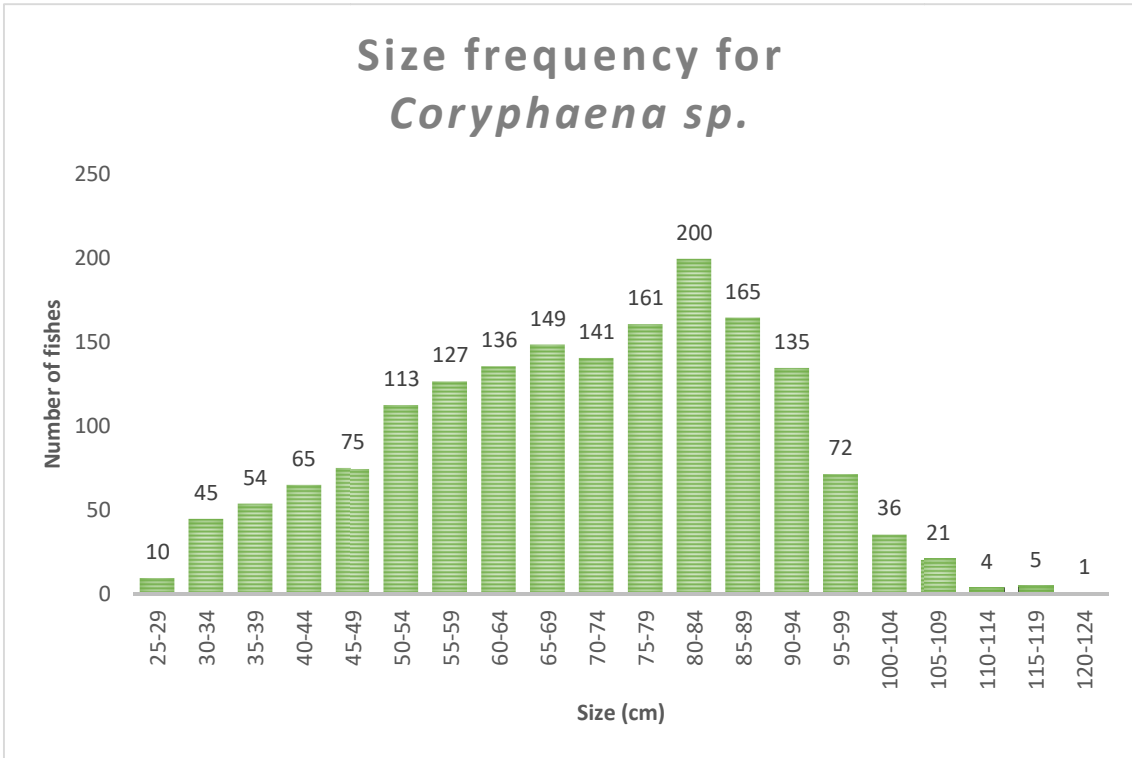


Figure 3. Size frequency of *Coryphaena sp.* individuals by size class.

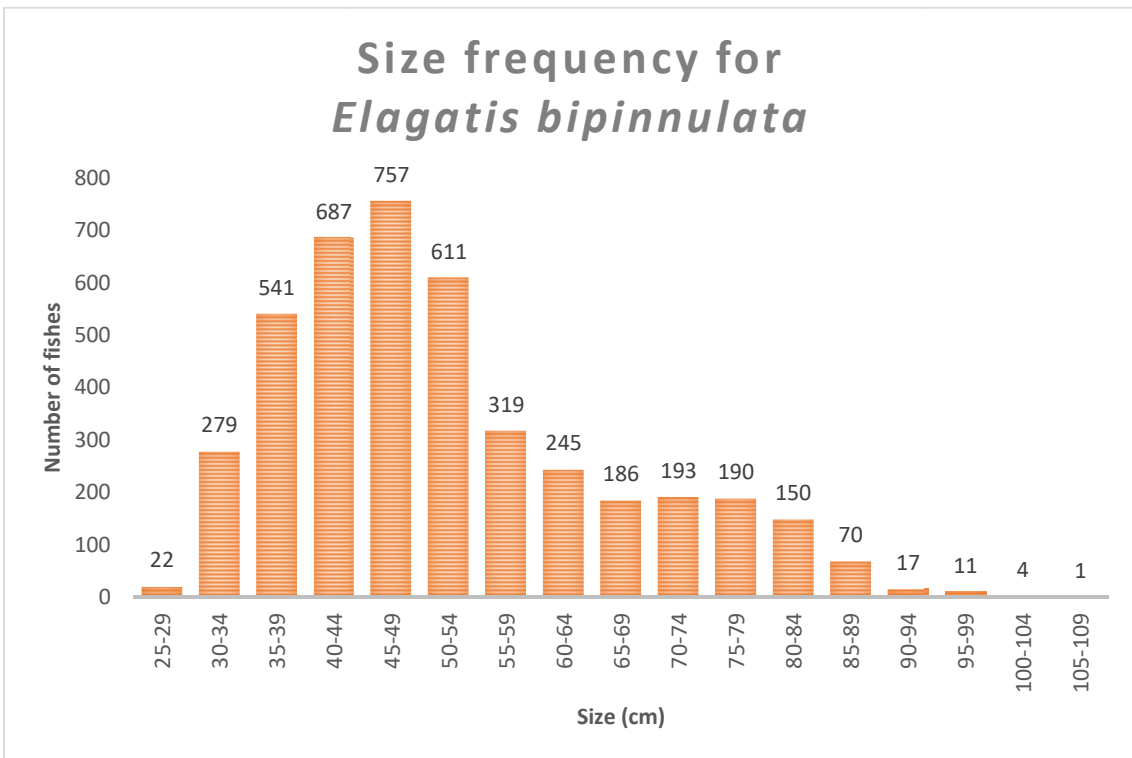


Figure 4. Size frequency of *Elagatis bipinnulata* individuals recorded by size class.

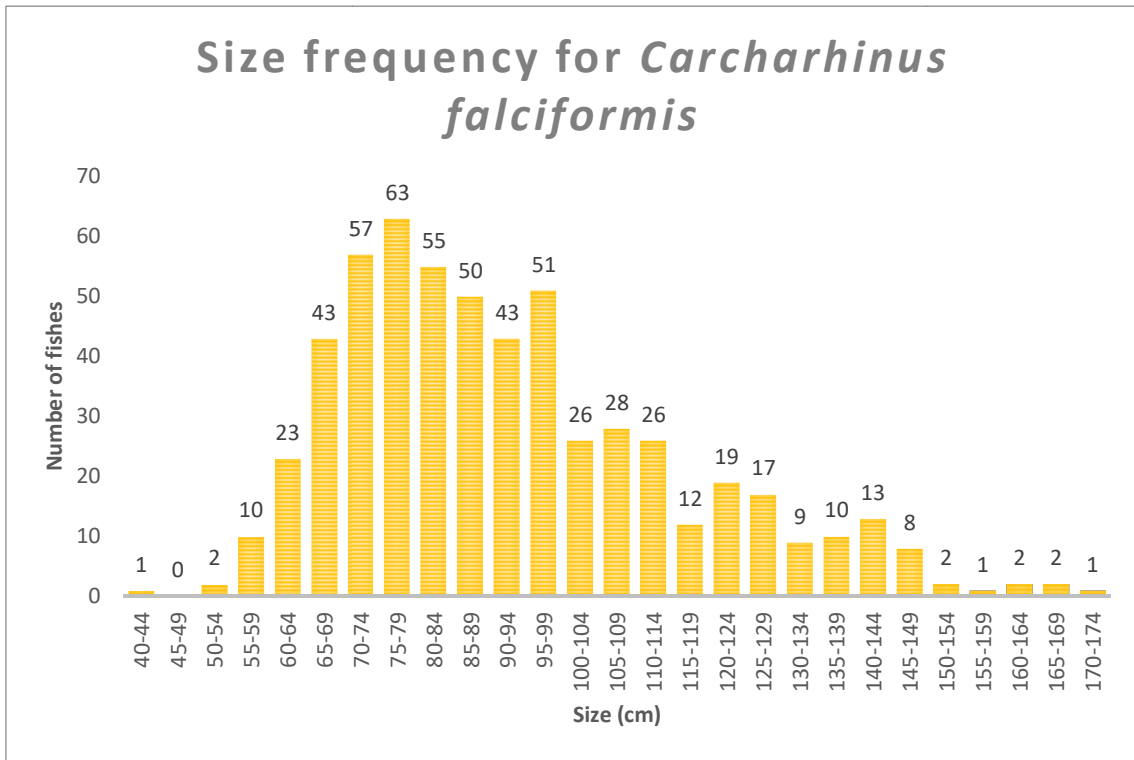


Figure 5. Size frequency of *Carcharhinus falciformis* individuals by size class.

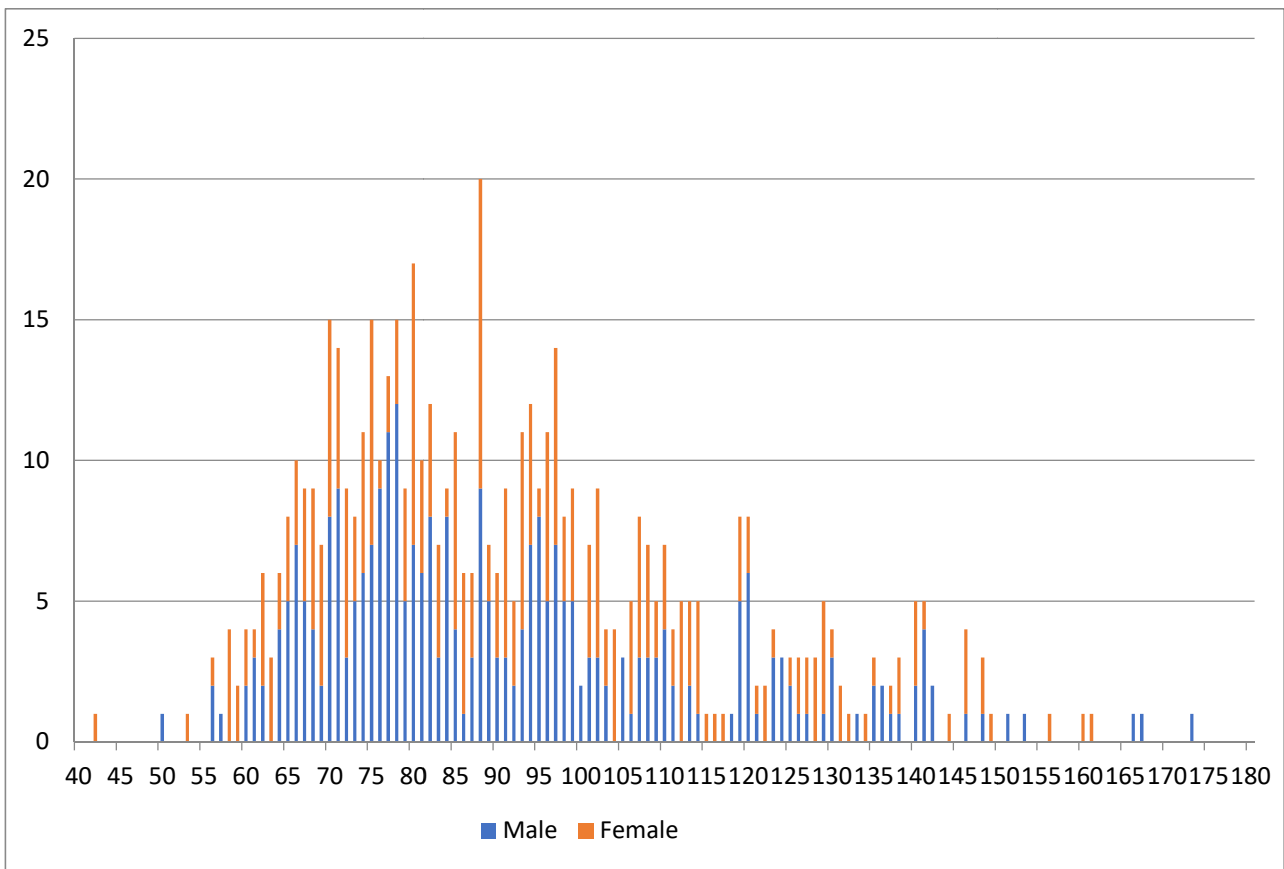


Figure 6. Sex frequency of *C. falciformis* individuals observed in the wells.