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Size distribution and length-weight relationships for some large pelagic sharks in the Indian Ocean

by

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ABSTRACT

Size frequencies and L-W relationships for blues shark, oceanic whitetip shark, silky shark and shortfin mako shark caught during Soviet Indian Ocean Tuna Longline Research Programme (SIOTLLRP) in 1961-1989 are presented.

Shark are dominated bycatch species in the Indian Ocean tuna longline (LL) fisheries and important part of non-target catches in purse seine (PS) and gillnet (GILL). However as it was stated by WPEB (IOTC, 2007; 2008) for most of the Indian Ocean shark species basic biological information is not available. This paper represent an attempt to present some basic information such as size composition and length-weight relationships for several abundant shark species recorded in the LL catches during Soviet Indian Ocean tuna longline research programme (SIOTLLRP), which take place between 1961 and 1989 (Romanov et al., 2006). All measurements were taken at sea on fresh individuals. It was inputted into the database, checked for errors and used for develop L-W relationships.

Blue shark *Prionace glauca*

Gear: LL

Sample total $n=2842$

Females $n=905$

Males $n=1922$

Sex non recorded $n=15$

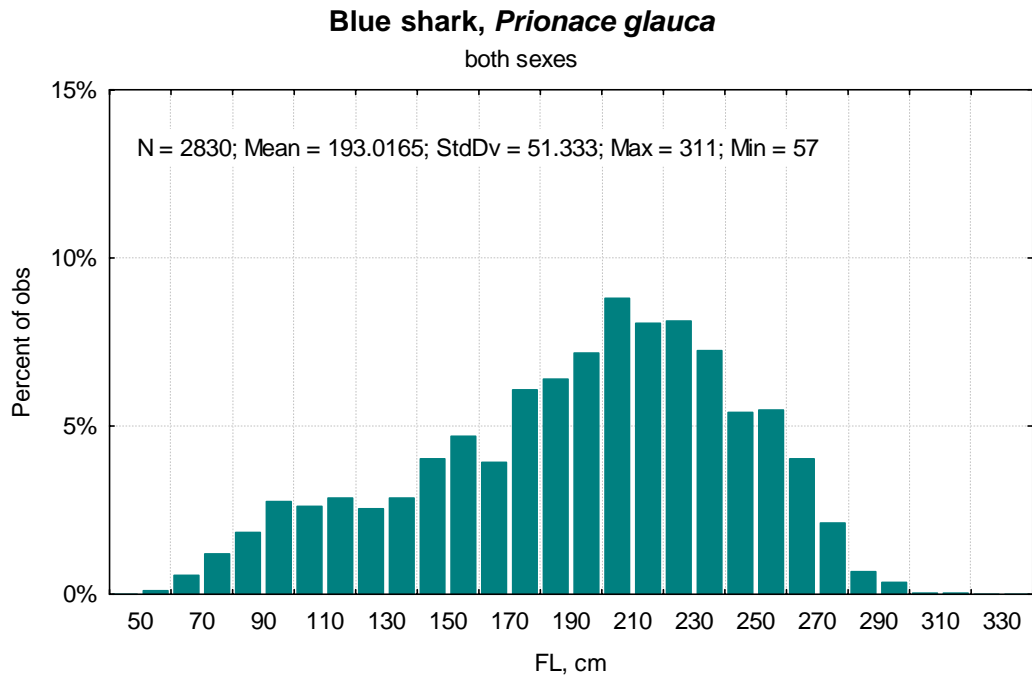


Figure 1. Size frequency distribution of blue shark individuals caught during SIOTLLRP, (both sexes, individuals with non-recorded sex are discarded).

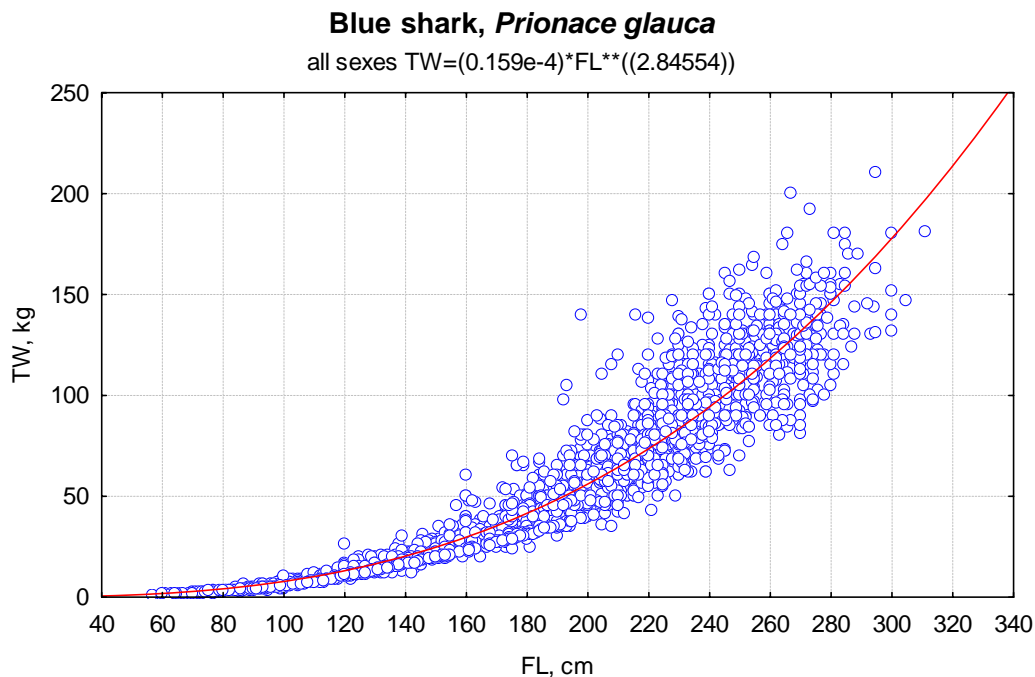


Figure 2. Length-weight scatterplot and relationship for blue shark (all sexes, $n=2842$)

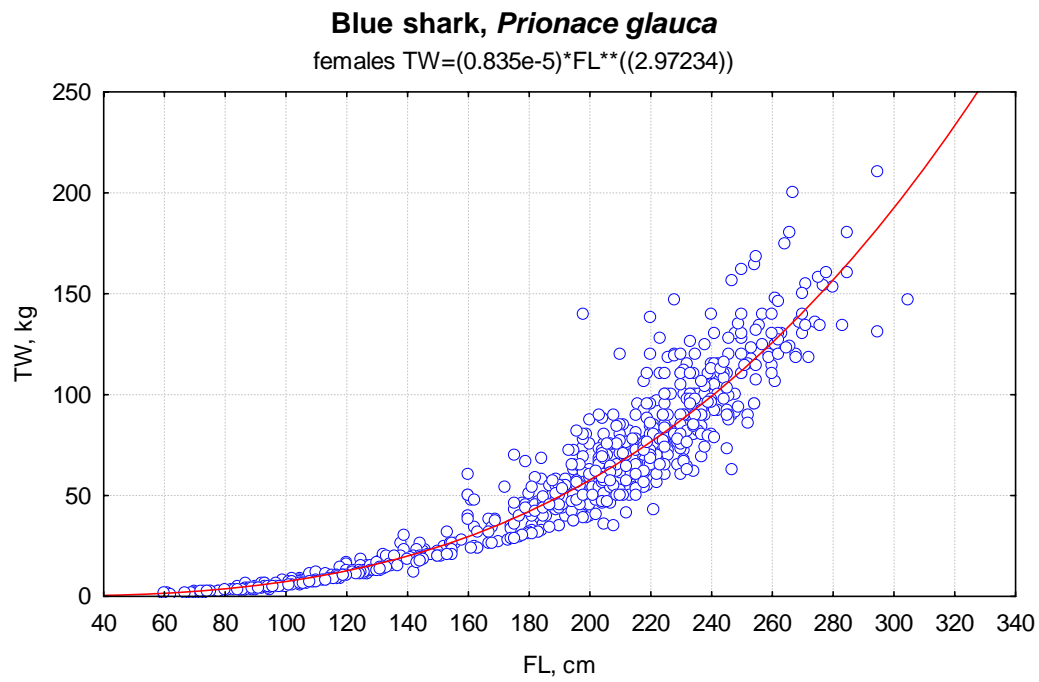


Figure 3. Length-weight scatterplot and relationship for blue shark (females, $n=905$)

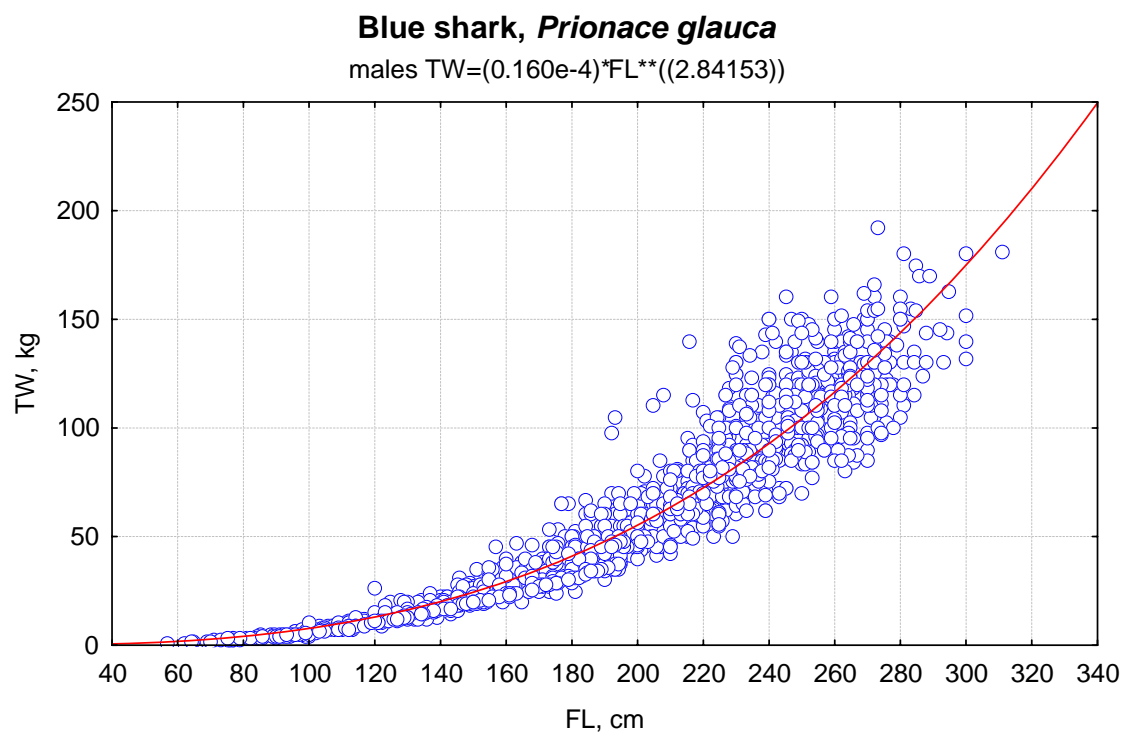


Figure 4. Length-weight scatterplot and relationship for blue shark (males, $n=1922$)

Oceanic whitetip shark *Carcharhinus longimanus*

Gear: LL, PS

Sample size total $n=587$ (LL: 583/PS: 4)

Females $n=279$ (LL: 278/PS: 1)

Males $n=305$ (LL: 302/PS: 3)

Sex non recorded $n=3$

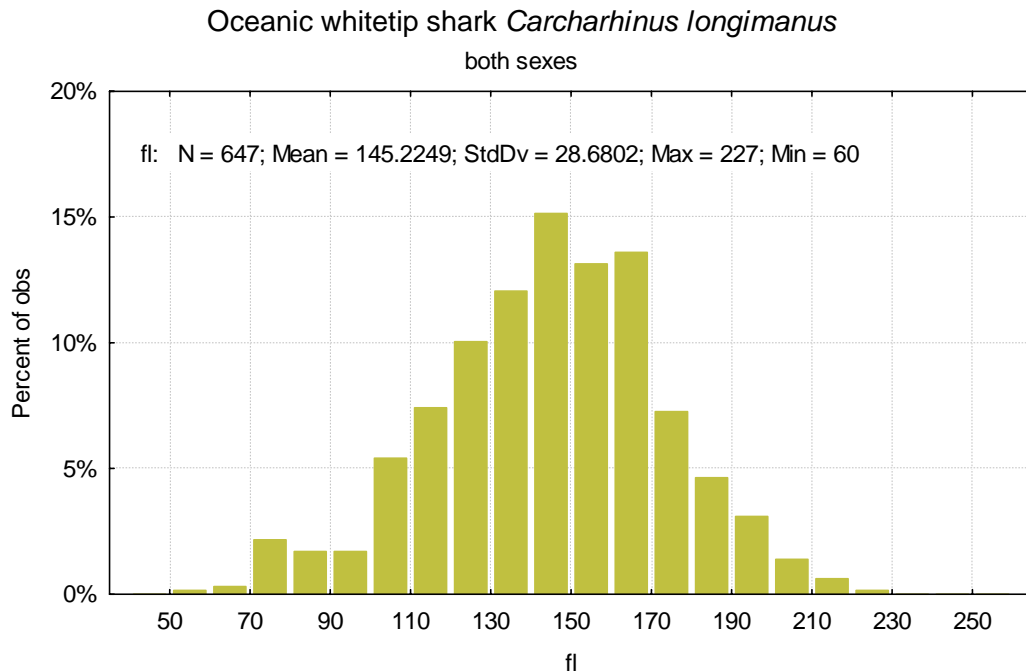


Figure 5. Size frequency distribution of oceanic whitetip shark individuals caught during SIOTLLRP, (both sexes, individuals with non-recorded sex are discarded).

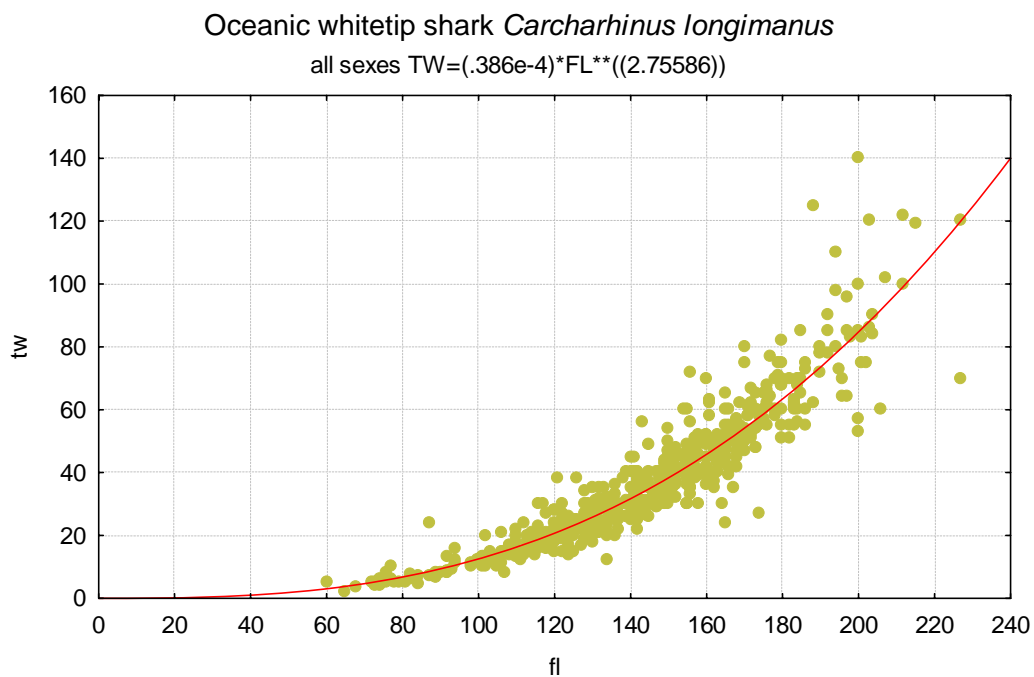


Figure 6. Length-weight scatterplot and relationship for oceanic whitetip shark (all sexes, $n=587$)

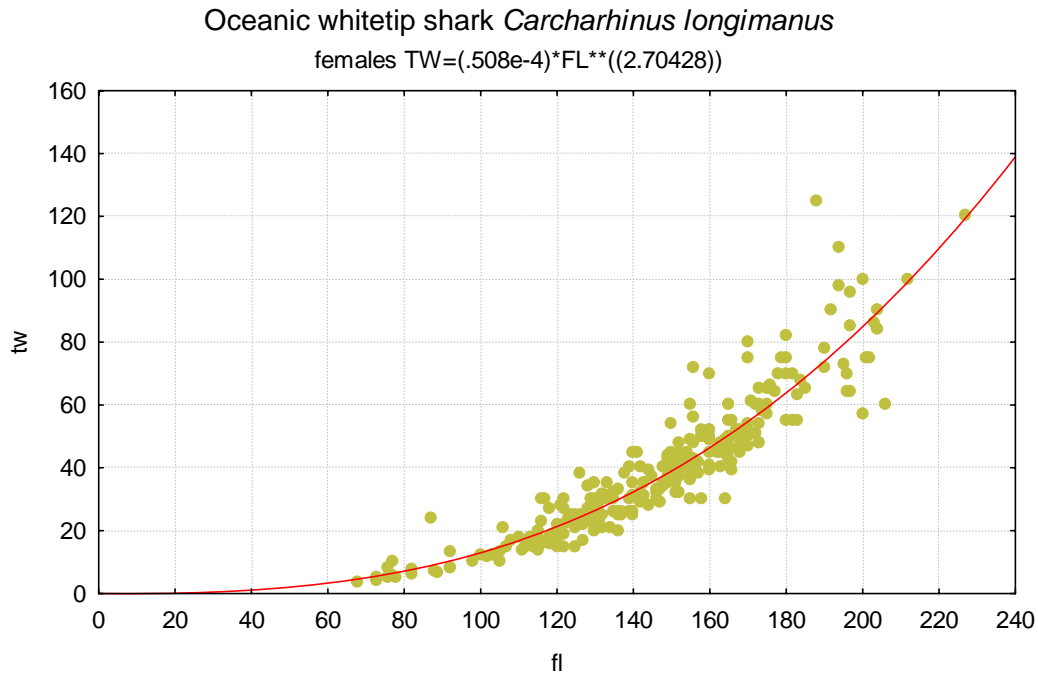


Figure 7. Length-weight scatterplot and relationship for oceanic whitetip shark (females, $n=905$)

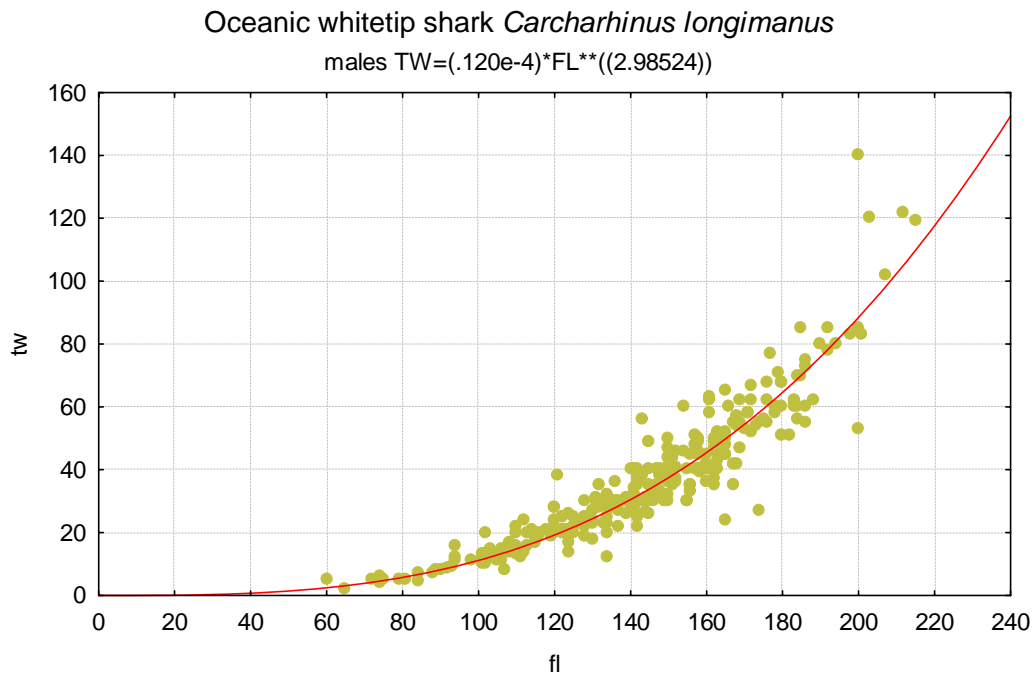


Figure 8. Length-weight scatterplot and relationship for oceanic whitetip shark (males, $n=305$)

Silky shark *Carcharhinus falciformis*

Gear: LL

Sample size total $n=687$

Females $n=279$

Males $n=341$

Sex non recorded $n=3$

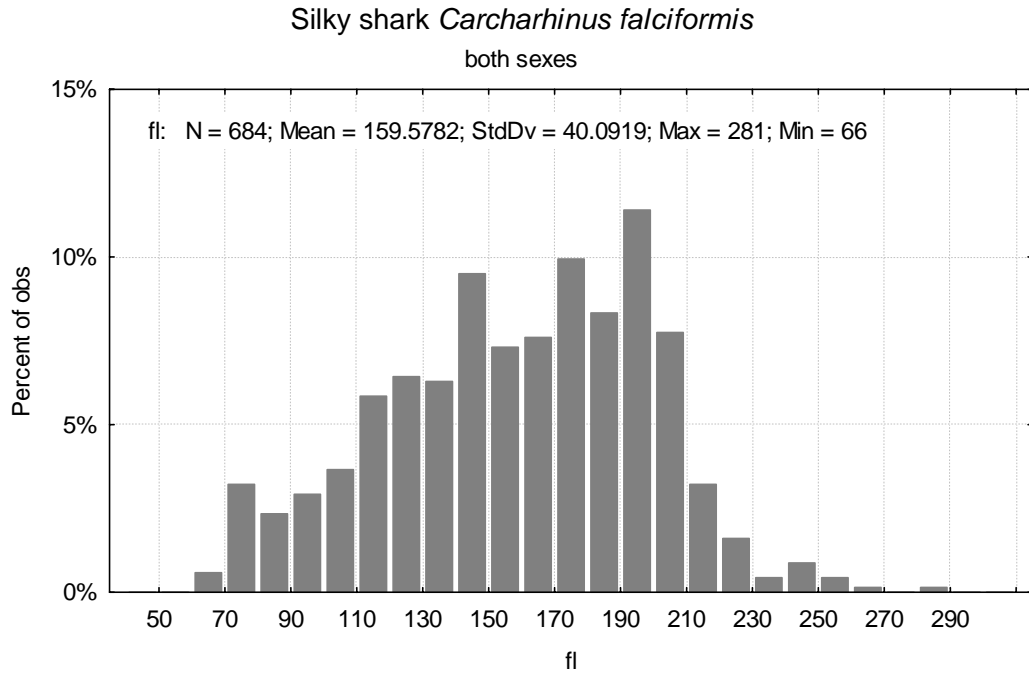


Figure 9. Size frequency distribution of silky shark individuals caught during SIOTLLRP, (both sexes, individuals with non-recorded sex are discarded).

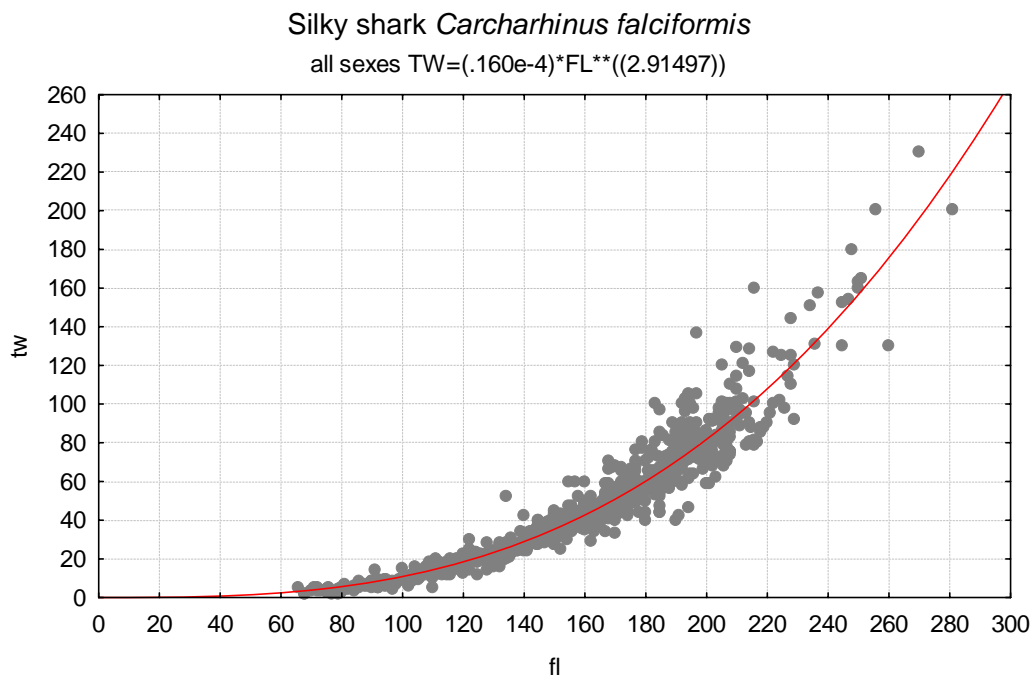


Figure 10. Length-weight scatterplot and relationship for silky shark (all sexes, $n=687$)

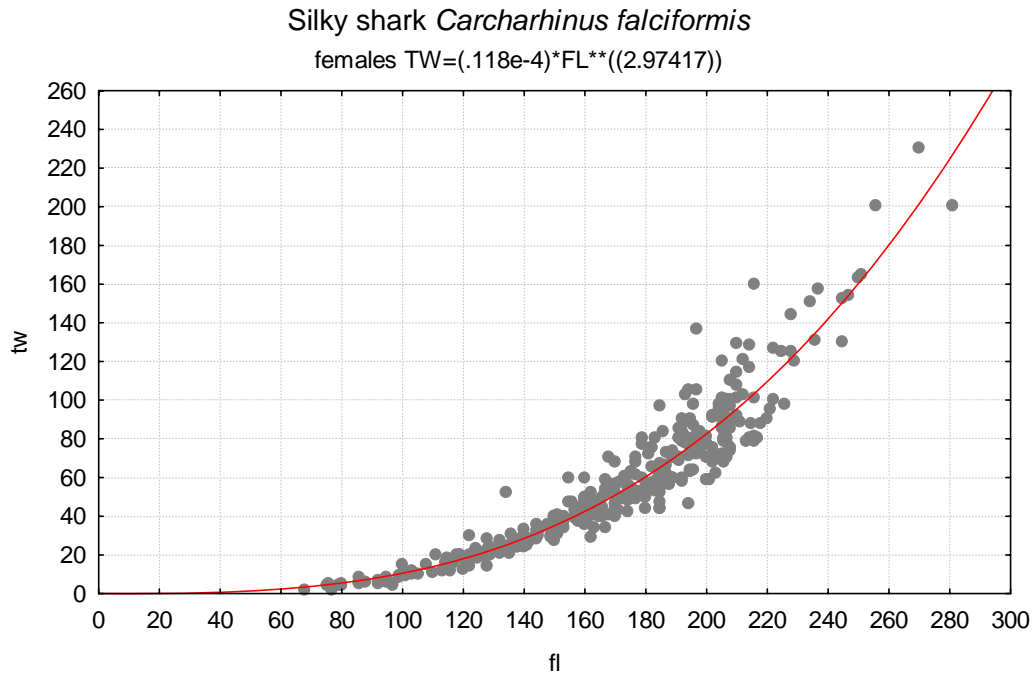


Figure 11. Length-weight scatterplot and relationship for silky shark (females, $n=279$)

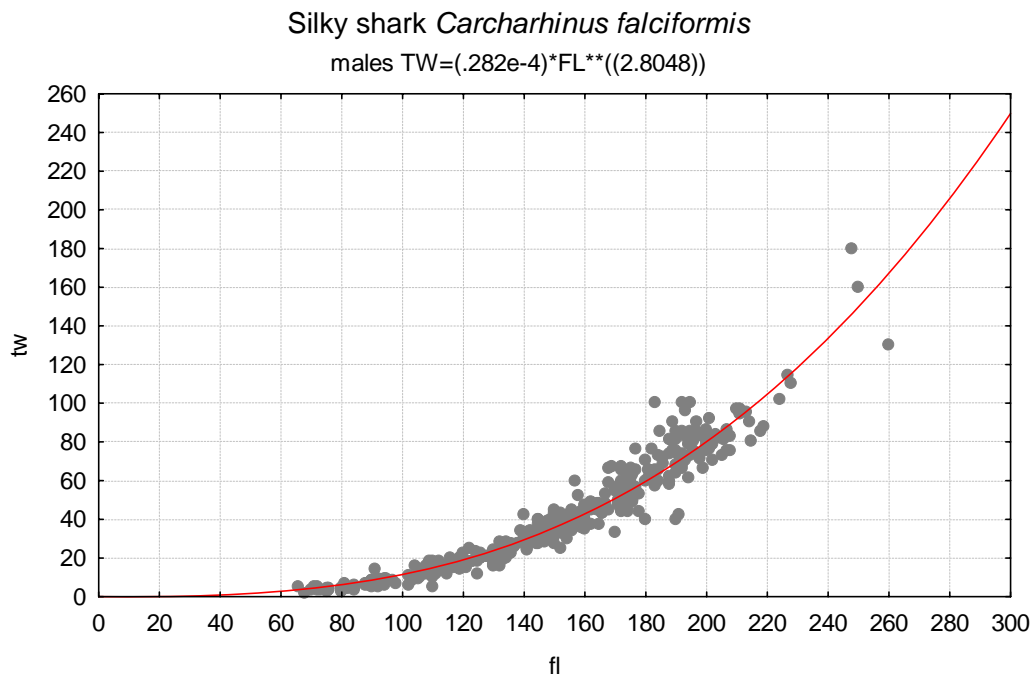


Figure 12. Length-weight scatterplot and relationship for silky shark (males, $n=341$)

Shortfin mako shark *Isurus oxyrinchus*

Gear: LL

Sample size total $n=906$

Females $n=375$

Males $n=503$

Sex non recorded $n=28$

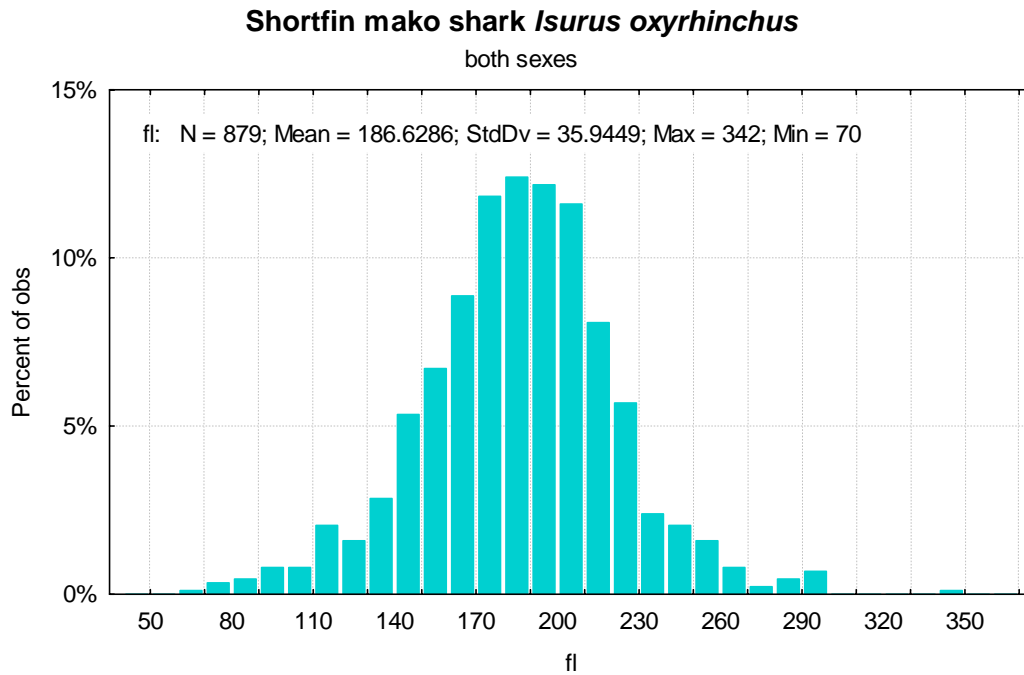


Figure 13. Size frequency distribution of shortfin mako shark individuals caught during SIOTLLRP, (both sexes, individuals with non-recorded sex are discarded).

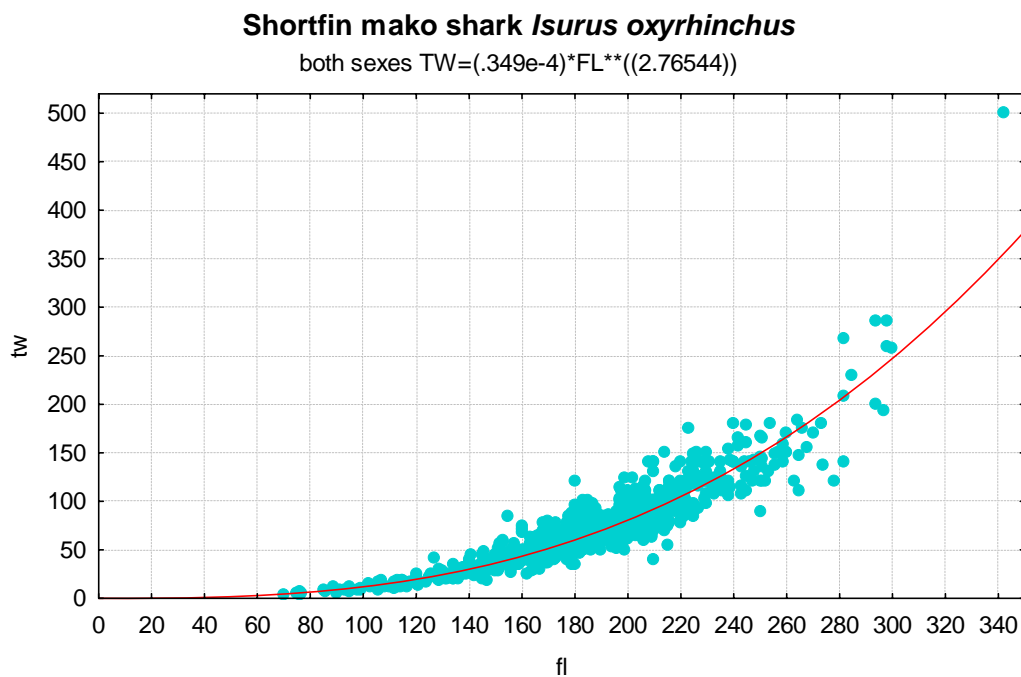


Figure 14. Length-weight scatterplot and relationship for shortfin mako shark (all sexes, $n=906$)

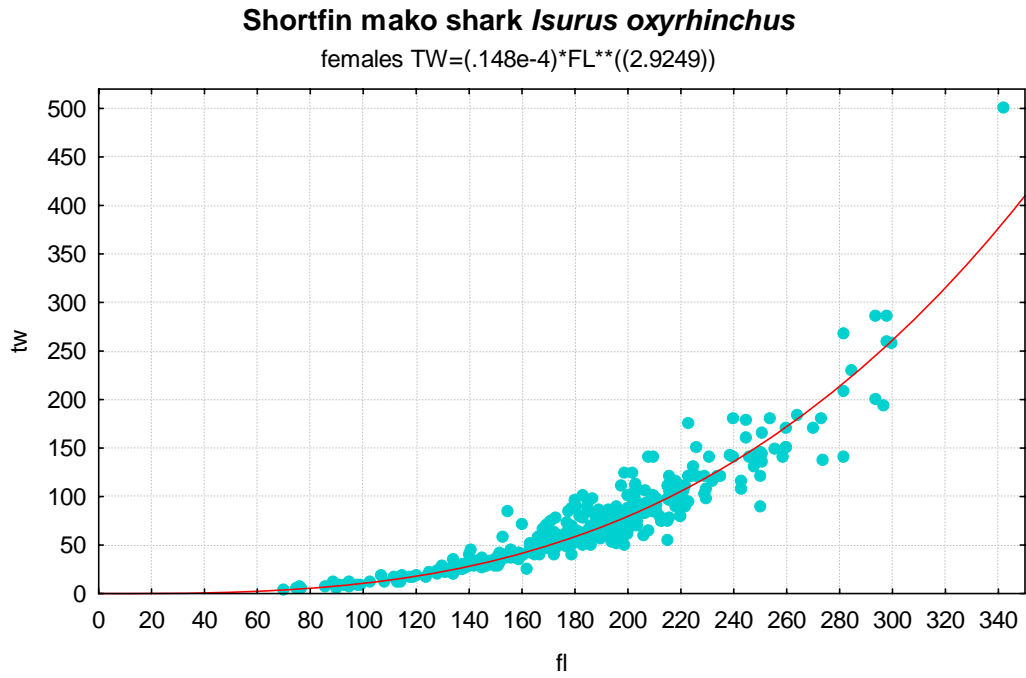


Figure 15. Length-weight scatterplot and relationship for shortfin mako shark (females, $n=375$)

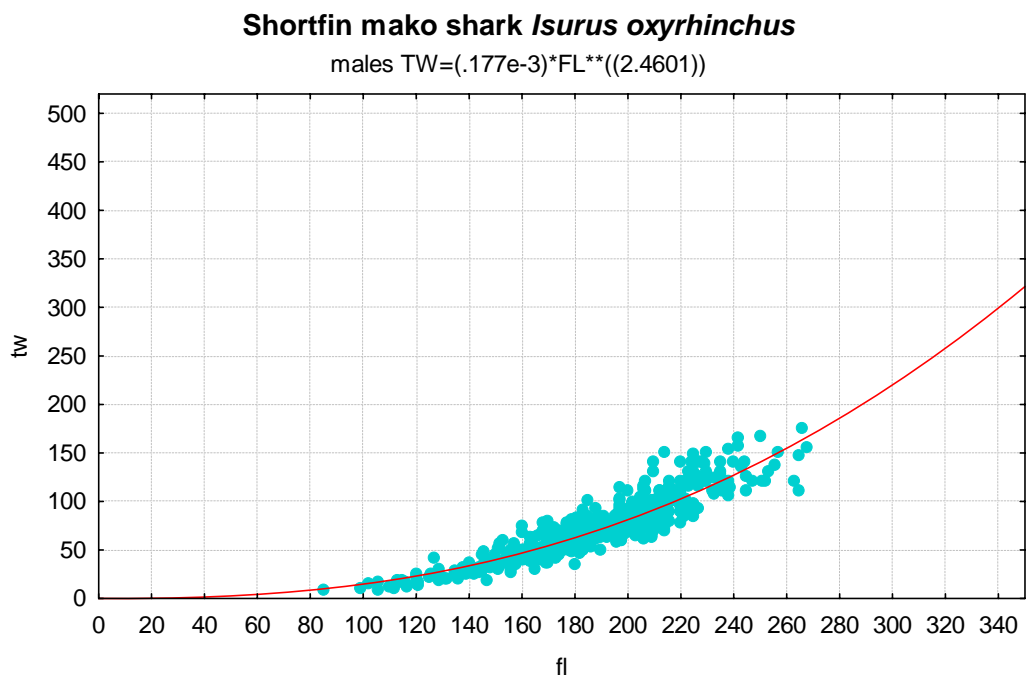


Figure 16. Length-weight scatterplot and relationship for shortfin mako shark (males, $n=503$)

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