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BECHIR SAIDI , SAMIRA ENAJJAR, MOHAMED NEJMEDDINE BRADAI

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Vulnerability of elasmobranchs caught as bycatch in the grouper longline fishery in the Gulf of Gabès, Tunisia

Bechir SAIDI, Samira ENAJJA and Mohamed Nejmeddine BRADAI

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Fig. S1: Example of species captured in demersal longline fishery in the Gulf of Gabès.

Table S1: Basic size range of life stages used to determine percentage of newborns, juveniles and adults of main elasmobranch species captured in demersal longline fishery in the Gulf of Gabès.

Species	Sex	Size range (cm)	Size range of each life stage			References	Comments
			Newborns	Juveniles	Adults		
<i>Carcharhinus brevipinna</i>	F	103-206	<75	75-196	>196	Capapé, C., Hemida, F., Secka, A.A., Diatta, Y., Guelorget, O. et al., 2003. <i>Distribution and reproductive biology of the spinner shark, Carcharhinus brevipinna (Mueller and Henle, 1841) (Chondrichthyes: Carcharhinidae).</i> Israel Journal of Zoology, 49, 269-286.	
<i>Carcharhinus plumbeus</i>	M	124-184	<75	75-172	>172	Saidi, B., Bradaï, M.N., Bouain, A., Guelorget, O., Capapé, C., 2005. <i>Reproductive biology of the sandbar shark, Carcharhinus plumbeus (Chondrichthyes: Carcharhinidae) from the Gulf of Gabès (southern Tunisia, Central Mediterranean).</i> Acta Adriatica, 46, 47-62.	
<i>Heptranchias perlo</i>	M	59-173	<70	70-160	>160	Capapé, C., 1980. <i>Nouvelle description de Heptranchias perlo (Bonaparte 1788) (Pisces, Pleurotremata, Hexanchidae). Données sur la biologie de la reproduction et le régime alimentaire des spécimens des côtes tunisiennes.</i> Bulletin de l'Office National de Pêches Tunisie, 4 (2), 231-264.	
<i>Mustelus mustelus</i>	M	84-108	<35	35-92	>92	Saidi, B., Bradaï, M.N., Bouain, A., 2008. <i>Reproductive biology of the smooth-hound shark Mustelus mustelus in the Gulf of Gabès (south-central Mediterranean Sea).</i> Journal of Fish Biology, 72, 1343-1354.	
<i>Mustelus punctulatus</i>	M	45-137	<50	50-112	>112	Saidi, B., Bradaï, M.N., Bouain, A., 2009. <i>Reproductive biology and diet of Mustelus punctulatus (Risso, 1826) (Chondrichthyes: Triakidae) from the Gulf of Gabès, central Mediterranean Sea.</i> Scientia Marina, 73 (2), 249-258.	
	M	70-100	<35	35-88,5	>88,5		

Continued

Table S1 continued

Species	Sex	Size range (cm)	Size range of each life stage			References	Comments
			Newborns	Juveniles	Adults		
<i>Scyliorhinus canicula</i>	F	19-40	<25	25-44	>44	Capapé, C., Mnasri_Sioudi, N., El Kamel_Moutalibi, O., Boumaïza, M., Ben Amo.M. M. et al., 2014. Production, Maternity, Reproductive Cycle and Fecundity of Small-Spotted Catshark, <i>Scyliorhinus canicula</i> (Chondrichthyces: Scyliorhinidae) from the Northern Coast of Tunisia (Central Mediterranean). <i>Journal of Ichthyology</i> , 54, 111-126.	
<i>Squalus spp.</i>	F	60-92	<30	30-60	>60	Marouani, S., 2013. Systématique et éco-biologie de <i>Squalus blainvilliei</i> (Risso, 1827) et <i>Squalus megalops</i> species and the size range captured (Macleay, 1881) (Chondrichthyens, Squalidae) du golfe de Gabès (Méditerranée centrale). PHD Thesis. University of Sfax, Tunisia, 220 pp.	Considering the confusion between species and the size range captured (Macleay, 1881) (Chondrichthyens, Squalidae) du golfe de Gabès (Méditerranée centrale). PHD Thesis. University of Sfax, Tunisia, 220 pp.
<i>Aetomylaeus bovinus</i>	M	48-67	<30	30-50	>50	Capapé, C., Quignard, J.P., 1975. Contribution à la systématique et à la biologie de <i>Pteromylaeus bovinus</i> (Geoffroy Saint-Hilaire, 1817), (Pisces, Myliobatidae) des côtes tunisiennes. Bulletin du Muséum National d'Histoire Naturelle, Paris, 3ème série, n° 338. Zoologie, 240, 1329-1347.	
<i>Dasyatis spp.</i>	F	25-70	<20	20-40	>40	Sadaoui, A., 2016. Statut taxonomique, Pêche et Eco-Biologie de deux pastenagues : <i>Dasyatis pastinaca</i> et <i>D. cf tortonesei</i> du golfe de Gabès (Tunisie). PhD Thesis. University of Sfax, Tunisia, 215 pp.	Considering the confusion between species, and that range sizes of life stages were quite similar we have considered those of <i>Dasyatis pastinaca</i> .
<i>Glauostegus cemiculus</i>	M	20-60	<20	20-33	>33	Ennajjar, S., Bradai, M. N., Bouain, A., 2012. Age, growth and sexual maturity of the blackchin guitarfish <i>Rhinobatos cemiculus</i> in the Gulf of Gabès (southern Tunisia, central Mediterranean). Cahiers de Biologie Marine, 53, 17-23.	Ennajjar, S., Bradai, M. N., Bouain, A., 2012. Age, growth and sexual maturity of the blackchin guitarfish <i>Rhinobatos cemiculus</i> in the Gulf of Gabès (southern Tunisia, central Mediterranean). Cahiers de Biologie Marine, 53, 17-23.

Species	Sex	Size range (cm)	Size range of each life stage			References	Comments
			Newborns	Juveniles	Adults		
<i>Gymnura altavela</i>	<i>M</i>	55-161	<45	45-112	>112	Cupapé, C., Zaouali, J., Tomasini, J.A., Bouchereau, J.L., 1992. <i>Reproductive biology of the spiny butterfly ray, Gymnura altavela (Linneus, 1758) (Pisces: Gymnuridae) from off the Tunisian coasts</i> . <i>Scientia Marina</i> , 56 (4), 347-355.	
<i>Raja clavata</i>	<i>F</i>	108-142	<35	35-108	108	Kadri, H., Marouani, S., Saidi, B., Bradaï M.N., Bouäin, A. et al., 2014. <i>Age, growth, sexual maturity and reproduction of the thornback ray, Raja clavata (L.), of the Gulf of Gabès (south-central Mediterranean Sea)</i> . <i>Marine Biology Research</i> , 10, 416-425.	
<i>Raja radula</i>	<i>M</i>	87-116	<35	35-78	78	Kadri, H., Marouani, S., Bradaï, M.N., Bouäin, A. et al., 2014. <i>Age, growth and reproductive biology of the rough skate, Raja radula (Chondrichthyes: Rajidae), off the Gulf of Gabès (southern Tunisia, central Mediterranean)</i> . <i>Marine and Freshwater Research</i> , 64, 540-548.	
	<i>F</i>	30-66	<25	25-56	>56		
	<i>M</i>	25-56	<25	25-44	>44		
	<i>F</i>	20-50	<20	20-38	>38		
	<i>M</i>	20-50	<20	20-32	>32		