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A PRELIMINARY SOCIAL MEDIA-BASED SURVEY OF SHARKS AND BATOIDS CAPTURED IN COMMERCIAL FISHERIES OF THE NORTHERN AEGEAN SEA

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ABSTRACT

In recent years, the use of social media films has been increasingly considered a promising method in elasmobranch research. The present study provides a regional example of good practice in using social media films for gathering additional and complementary information on the sharks and batoids in the northern Aegean Sea. A total of 67 shark and batoid individuals representing 8 orders, 15 families, and 21 species appeared in the examined video footages. The majority of the identified elasmobranchs consisted of sharks. Incidental captures of identified elasmobranchs mostly occurred in association with demersal fishing gears, frequently in demersal long-line fishery. The incidental captures of newborn specimens of blue shark and common angel shark support the suggestion that the northern Aegean Sea may serve as a parturition and/or nursery ground for both species.

Keywords: Elasmobranchs, captures, conservation, social media, opportunistic sampling

INDAGINE PRELIMINARE BASATA SUI SOCIAL MEDIA SU SQUALI E BATOIDI CATTURATI NELLA PESCA COMMERCIALE DEL MAR EGEO SETTENTRIONALE

SINTESI

Negli ultimi anni, l'uso dei filmati pubblicati sui social media è stato sempre più considerato un metodo promettente nella ricerca sugli elasmobranchi. Il presente studio fornisce un esempio regionale di buona pratica nell'uso dei filmati dei social media per raccogliere informazioni aggiuntive e complementari su squali e batoidi dell'Egeo settentrionale. Nei filmati esaminati sono apparsi un totale di 67 individui di squali e batoidi che rappresentano 8 ordini, 15 famiglie e 21 specie. La maggior parte degli elasmobranchi identificati era costituita da squali. Le catture accidentali degli elasmobranchi identificati si sono verificate soprattutto in associazione con attrezzature da pesca demersali, principalmente durante la pesca con palangari. Le catture accidentali di esemplari neonati di verdesca e pesce angelo supportano l'ipotesi che l'Egeo settentrionale possa fungere da area di nascita e/o crescita per entrambe le specie.

Parole chiave: elasmobranchi, catture, conservazione, social media, campionamento opportunistico

INTRODUCTION

Assessment of species diversity and abundance in chondrichthyans is an important step in the evaluation of their conservation status (Serena *et al.*, 2020). In the Mediterranean Sea, chondrichthyans, particularly large predatory sharks, have experienced a dramatic decline in numbers over the last two centuries (Ferretti *et al.*, 2008; Bargnesi *et al.*, 2020); therefore, every effort devoted to contributing to a better understanding of their life histories, distribution, etc., is valuable. For over 50 years, research programs have investigated the occurrence and distribution of chondrichthyans throughout the Mediterranean Sea, enhancing our in-depth understanding of their richness in the region (e.g., Capapé, 1989; Başusta *et al.*, 1998; Barrull *et al.*, 1999; De Maddalena & Pisticelli, 2001; Storai, 2004; Kabasakal & Kabasakal, 2004; Capapé *et al.*, 2006; Storai *et al.*, 2006; İşmen *et al.*, 2009; Damalas & Megalofonou, 2012; Sperone *et al.*, 2012; Ragonese *et al.*, 2013; Rafrafi-Nouira *et al.*, 2015; Ennajar *et al.*, 2022). Tracing the material and methods sections of these references, it becomes evident that the majority of the sampling has been carried out either using conventional methods of systematic scientific sampling or through opportunistic sampling in commercial fishing operations. Undoubtedly, monitoring the bycatch of commercial fisheries is a prolific source of data in chondrichthyan research (Kabasakal & Kabasakal, 2004; Kabasakal *et al.*, 2017; Mancusi *et al.*, 2020; Bonanomi *et al.*, 2018, 2022; Gallo *et al.*, 2022). However, the mining of social media has become an increasingly applied alternative method for collecting data in shark and batoid research (Boldrocchi & Storai, 2020; Kabasakal & Bilecenoğlu, 2020; Mancusi *et al.*, 2020; Taklis *et al.*, 2020; Kesici *et al.*, 2021; Gallo *et al.*, 2022; Bargnesi *et al.*, 2020, 2022).

The chondrichthyan fauna of the northeastern Aegean Sea has been investigated both in general ichthyological inventory studies (Eryılmaz, 2003; İşmen *et al.*, 2009; Cengiz *et al.*, 2011; Gönülal, 2016), and in a shark-specific survey (Kabasakal & Kabasakal, 2004). In this paper, the author reports the incidental captures of chondrichthyans in commercial fisheries operating in the northern Aegean Sea between September 2021 and August 2023, mainly based on data mined from mainstream social media channels. As a secondary objective, the author provides notes on the sharks and batoids that appeared in the examined footages.

MATERIAL AND METHODS

Area of investigation and type of fishery

The present study mostly covers the marine area surrounding the Gökçeada island and the mouth of Saroz Bay in the northeastern Aegean Sea (Fig. 1). In this region, artisanal fishermen deploy trammel nets with a 42 mm knot-to-knot mesh opening (locally known as "marya" nets), along with demersal long-lines. In these fisheries, the primary targeted species include bony fishes such as the common dentex, *Dentex dentex* (Linnaeus, 1758), angler fish, *Lophius piscatorius* (Linnaeus, 1758), tub gurnard, *Chelidonichthys lucerna* (Linnaeus, 1758), and hake, *Merluccius merluccius* (Linnaeus, 1758). Commercial species of secondary importance include crustaceans, such as the European lobster, *Homarus gammarus* (Linnaeus, 1758) and European spiny lobster, *Palinurus vulgaris* Latreille, 1804, and cephalopods, such as *Octopus* sp. and *Sepia* sp. On rare occasions, pelagic teleosteans such as swordfish, *Xiphias gladius* Linnaeus, 1758, and little tunny, *Euthynnus alletteratus* (Rafinesque, 1810) may also be captured.

Sampling methodology

The sampling approach in the present study was a typical example of opportunistic research (Jessup 2003), with data obtained solely from social media platforms Facebook, Instagram, and YouTube. To extract data from these platforms, a regular data mining survey was carried out once a week using the "Date Posted" filter in order to identify the most recent posts (Taklis *et al.*, 2020). The data search covers the period from September 2021 to August 2023. Furthermore, video footages recorded by local fishers between September 2021 and August 2023, documenting their catches and including scenes of incidentally captured elasmobranchs, were shared with the author for species identification. A total of 31 video footages (with a combined duration of 9 hours, 10 minutes, and 5 seconds) were analysed. An individual elasmobranch record was considered valid if the specimen depicted in a digital photograph was clearly visible in a side view; in the case of video footage, the specimen had to be visible for approximately 5 seconds, allowing for the capture of a still image for species identification (Kabasakal & Bilecenoğlu, 2020). To achieve this, the "Image Capture" function of the VLC Media Player was used. To facilitate the search and filter the information from the web, we used the following hashtags in Turkish (Kim *et al.*, 2016): "köpekbalıkları [sharks], yakalandı [captured], camgöz [dogfish], domuz köpekbalığı [angular rough shark], keler [angel shark], sapan balığı [thresher shark], mavi köpekbalığı [blue shark], büyük beyaz [great white shark], canavar (sea monster), kuzey Ege [north Aegean], Gökçeada [Gökçeada island], Saroz [Saroz Bay]". To avoid repetition or duplication of records and to confirm their provenance, the owner of the original post was contacted for every incidence.

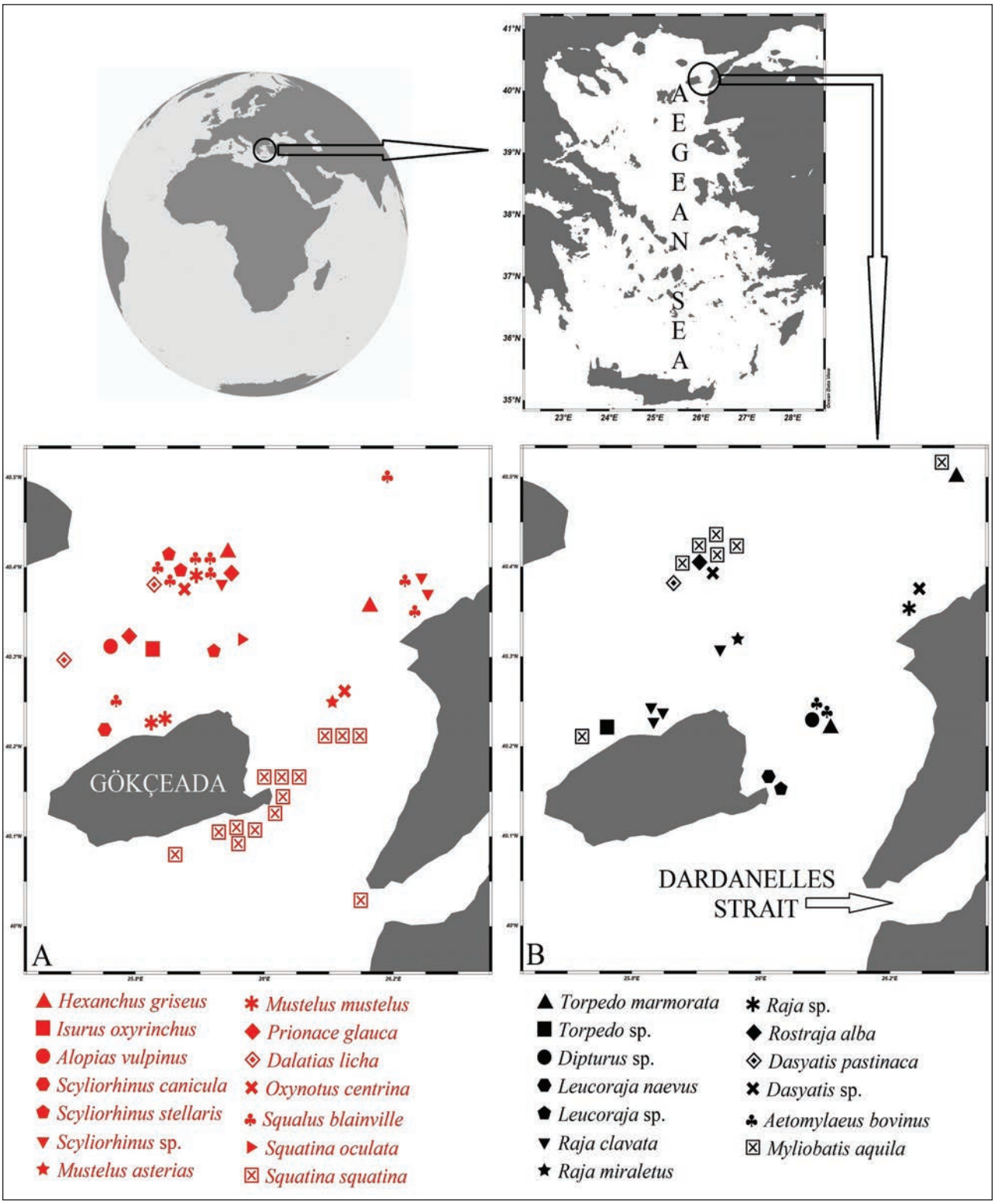

Fig. 1: Maps showing the approximate locations of capture of sharks (a) and batoids (b) in the northern Aegean Sea. Circles on the small maps indicate the locality of investigation in the Aegean Sea, as well as on the globe.
Sl. 1: Zemljevidi s prikazi lokacij ulova morskih psov (a) in skatov (b) v severnem Egejskem morju. Krogci na manjših zemljevidih označujejo obravnavano območje v Egejskem morju, katerega lega je prikazana na planetarnem nivoju.

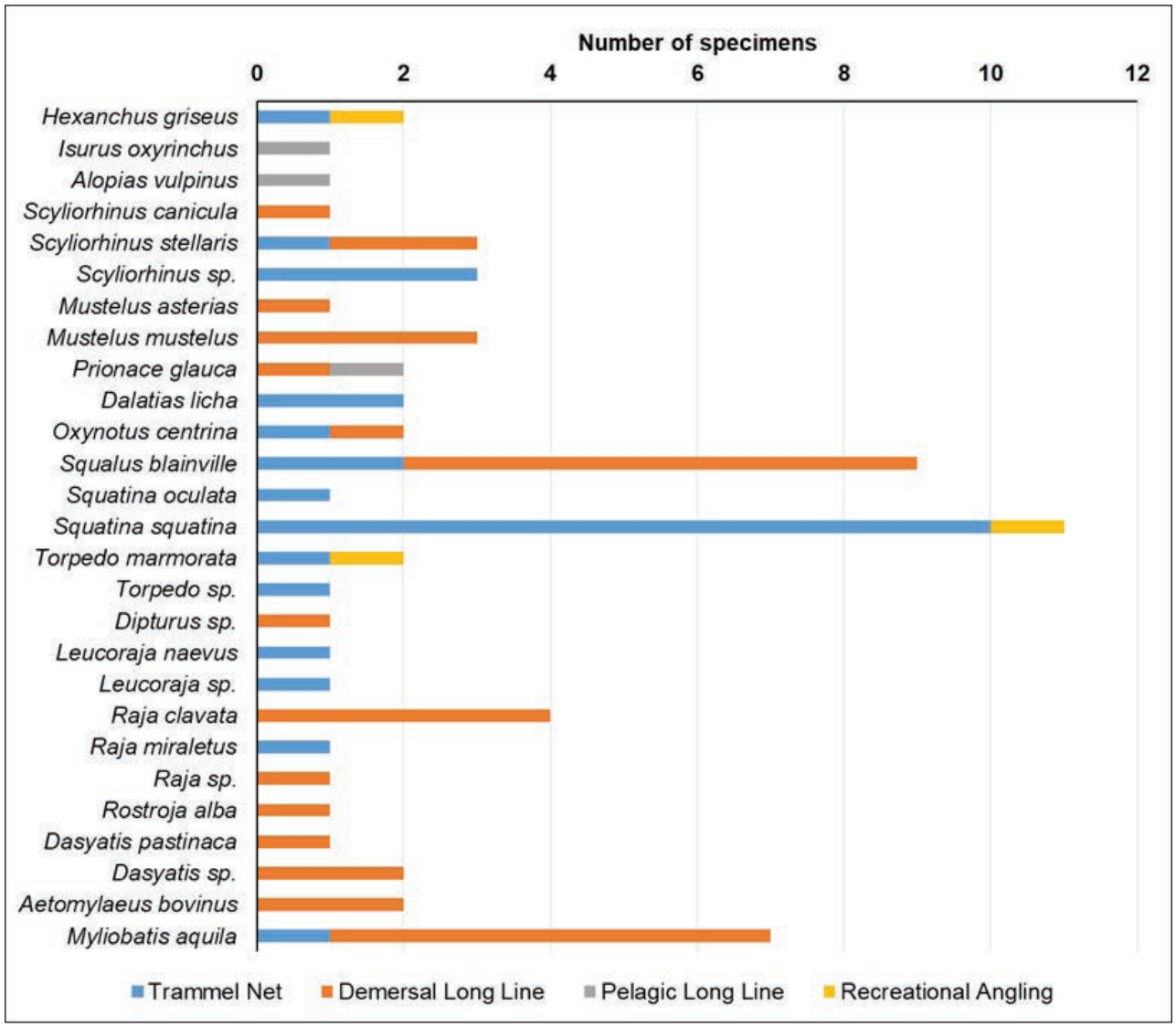

Fig. 2: Numerical occurrence of identified sharks and batoids with respect to fishing gear.
Sl. 2: Število primerkov določenih morskih psov in skatov glede na ribolovno orodje.

Since online communities and website administrators may react negatively to the utilisation of their online content by researchers, all internet content scraping activity was performed responsibly, following the ethical code proposed by Monkman *et al*. (2017) and avoiding compromising any personal data or image. Species identification follows Barone *et al*. (2022), while taxonomic nomenclature follows Froese and Pauly (2023). The IUCN Red List status of the identified elasmobranchs in the Mediterranean Sea follows Otero *et al*. (2019). Wherever possible, the following information was collected for each identified species through contacts with the owner of the post: total length (TL), total weight (TW), depth of capture (image of the echosounder screen), and locality of deployment. To determine the sex of the specimens, the best image depicting the genital opening (for females) or claspers (for males) was captured, and the time code of the image was recorded. Neonates are defined as post-hatching or post-birth free-swimming young bearing fresh, unhealed, or healing umbilical scars in the case of placental species, or those at or near-birth size in the case of aplacental or ovoviviparous species (Castro, 1993). Juveniles include all post-neonatal individuals prior to sexual maturation (Castro, 1993). The downloaded source videos as well as the captured frames of the identified species are preserved in the author's archives and available upon request for further examination.

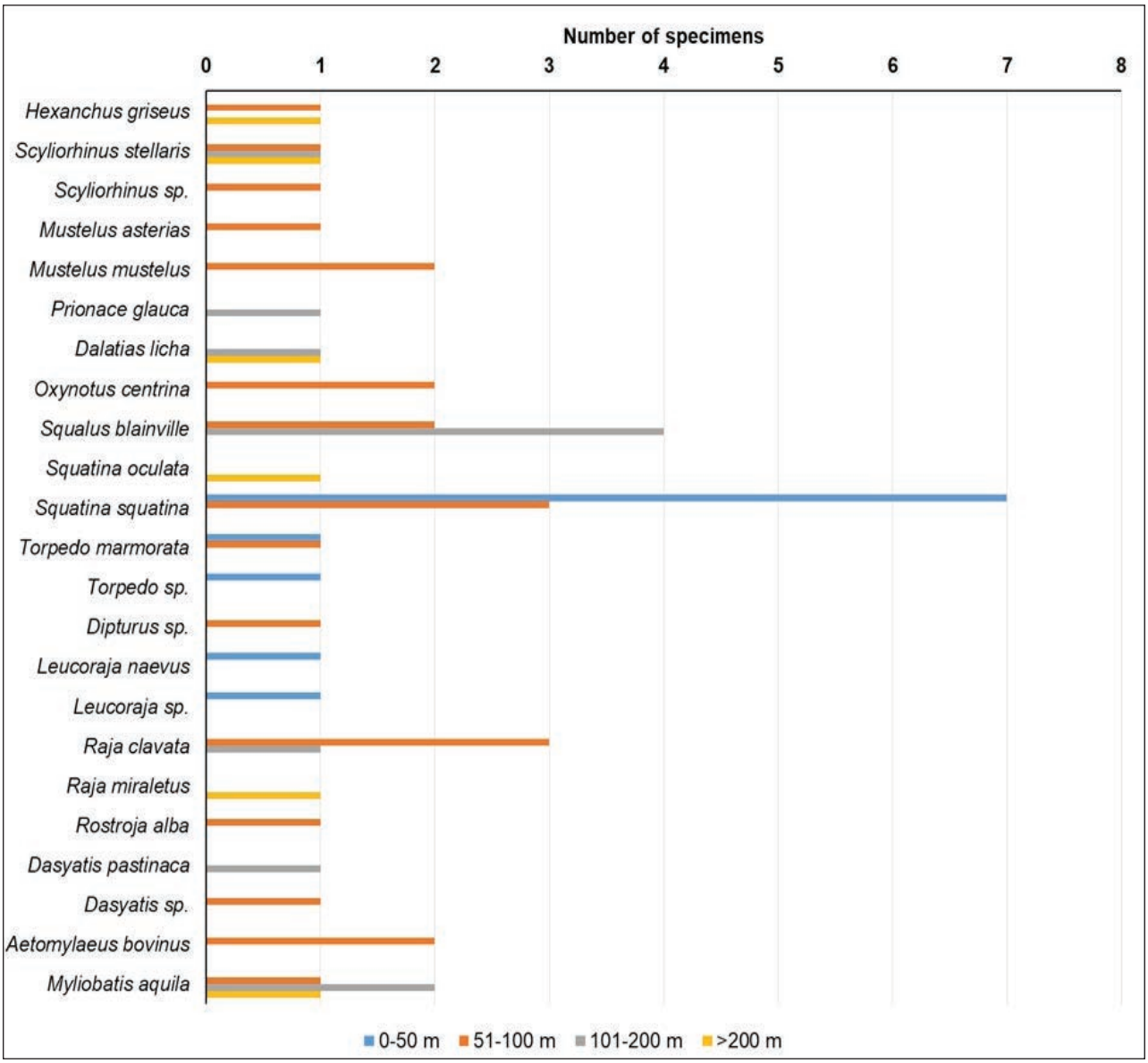

Fig. 3: Numerical occurrence of identified sharks and batoids with respect to depth of capture.
Sl. 3: Število primerkov določenih morskih psov in skatov glede na globino ulova.

Data analysis

Differences in the number of identified elasmobranch species and the respective numbers of specimens were analysed with regards to type of fishing gear, depth of capture, and season of capture using Welch ANOVA, Kruskal-Wallis, and Dunn's post hoc tests. The latter was performed using Bonferroni-adjusted *p*-values (Parab & Bhalerao, 2010; Özaltındiş *et al.*, 2021). The chosen *p*-value was set at 0.05. Statistical analyses were performed employing PAST-Palaeontological statistics, version 4.03 (Hammer *et al*. 2001).

RESULTS

Total elasmobranchs

A total of 67 shark and batoid specimens representing 8 orders, 15 families, and 21 species appeared in the examined video footages. In addition to the identified species, there were several specimens identified at the generic level (a total of 6 genera). The identified species are presented in Tab. 1 in taxonomic order. Collated data regarding the date of capture, depth of capture, type of fishing gear used, species observed, and individual

Tab. 1: Taxonomic order of elasmobranch species identified in the video footages, along with the respective number of specimens (n=67) and the percentages of occurrence in the total number of specimens. DD: Data Deficient; LC: Least Concern; NT: Near-Threatened; VU: Vulnerable; EN: Endangered; CR: Critically Endangered. The asterisk (*) denotes species protected by law in Turkish seas.
Tab. 1: Taksonomski pregled prepoznanih vrst hrustančnic v videoposnetkih, število primerkov (n=67) in delež pojavljanja glede na celotno število primerkov. DD: Pomanjkljivi podatki; LC: Najmanj ogrožene; NT: potencialno ogrožene; VU: ranljive; EN: ogrožene; CR: skrajno ogrožene. Zvezdica (*) označuje z zakonom zaščitene vrste v turških morjih.

TAXONOMICAL ORDER	N	% of Total N	IUCN Red List Status for Mediterranean
HEXANCHIFORMES			
Hexanchidae			
Hexanchus griseus (Bonnaterre, 1788)	2	1.34	LC
LAMNIFORMES			
Lamnidae			
Isurus oxyrinchus Rafinesque, 1810*	1	0.67	CR
Alopiidae			
Alopias vulpinus (Bonnaterre, 1788)*	1	0.67	EN
CARCHARHINIFORMES			
Scyliorhinidae			
Scyliorhinus canicula (Linnaeus, 1758)	1	0,67	LC
Scyliorhinus stellaris (Linnaeus, 1758)	3	2.01	NT
Scyliorhinus sp.	3	2.01	
Triakidae			
Mustelus asterias Cloquet, 1819	1	0.67	VU
Mustelus mustelus (Linnaeus, 1758)	3	2.01	VU
Carcharhinidae			
Prionace glauca (Linnaeus, 1758)*	2	1.34	CR
SQUALIFORMES			
Dalatiidae			
Dalatias licha (Bonnaterre, 1788)	2	1.34	VU
Oxynotidae			
Oxynotus centrina (Linnaeus, 1758)*	2	1.34	CR
Squalidae			
Squalus blainville (Risso, 1827)*	9	6.03	DD
SQUATINIFORMES			
Squatinidae			
Squatina oculata Bonaparte, 1840*	1	0.67	CR
Squatina squatina (Linnaeus, 1758)*	11	7.37	CR
TORPEDINIFORMES			
Torpedinidae			
Torpedo marmorata Risso, 1810	2	1.34	LC
Torpedo sp.	1	0.67	
RAJIFORMES			
Rajidae			
Dipturus sp.	1	0.67	
Leucoraja naevus (Müller & Henle, 1841)	1	0.67	NT
Leucoraja sp.	1	0.67	
Raja clavata Linnaeus, 1758*	4	2.68	NT
Raja miraletus Linnaeus, 1758	1	0.67	LC
Raja sp.	1	0.67	
Rostroja alba (Lacepède, 1803)	1	0.67	EN
MYLIOBATIFORMES			
Dasyatidae			
Dasyatis pastinaca (Linnaeus, 1758)	1	0.67	VU
Dasyatis sp.	2	1.34	
Aetobatidae			
Aetomylaeus bovinus (Geoffroy St. Hilaire, 1817)	2	1.34	CR
Myliobatidae			
Myliobatis aquila (Linnaeus, 1758)	7	4.69	VU

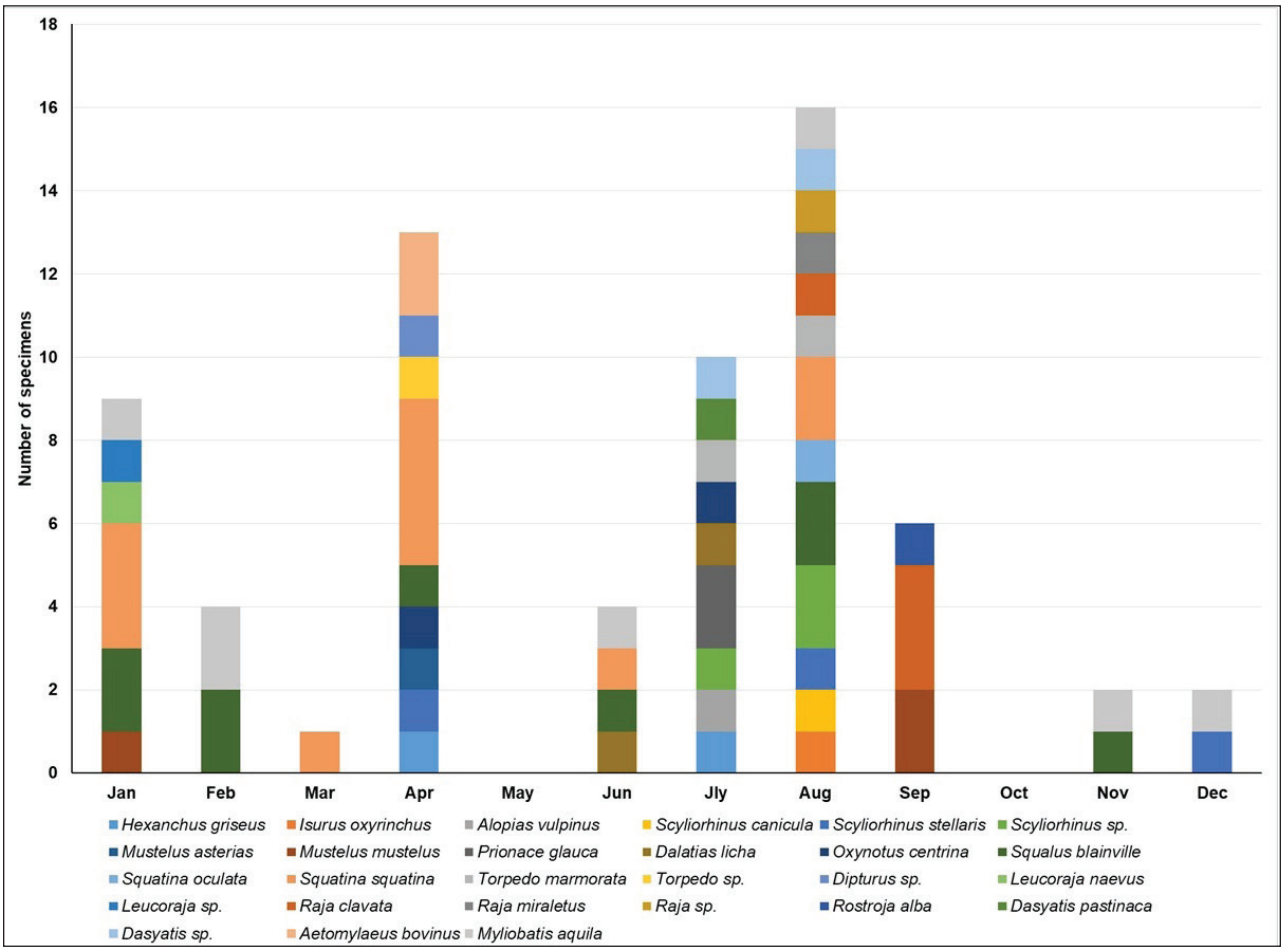

Fig. 4: Numerical occurrence of identified sharks and batoids with respect to season of capture.
Sl. 4: Število primerkov določenih morskih psov in skatov glede na sezono ulova.

remarks are presented in Appendix 1. The majority of the identified elasmobranchs consisted of sharks (n=42; 62.69%), whereas batoids comprised 37.31% (n=25) of the identified species. The most frequently observed species was *Squatina squatina* (n=11; 7.37%), followed by *Squalus blainville* (n=9; 6.03%), and *Myliobatis aquila* (n=7; 4.69%) (Tab. 1). As seen in Table 1, the percentage of occurrences for the remaining elasmobranchs was less than 6 percent of the total sample. Demersal elasmobranchs comprised the majority of the identified elasmobranchs (n=63; 94.03%), with only 5.97% of the total sample (n=4) represented by pelagic sharks (*Isurus oxyrinchus*, *Alopias vulpinus*, and *Prionace glauca*) (Tab. 1).

Elasmobranch species vs. fishing gears

Incidental captures of identified elasmobranchs mostly occurred in association with demersal fishing gears, with 50.75% (n=34) of the total sample captured in demersal long-line fishery, followed by trammel netting (n=27; 40.30%). Pelagic long-lining (n=3) and recreational angling (n=3) individually comprised 4.48 percent of the total captures (Fig. 2). When analysing the captures based on the type of fishing gear used, there was no statistically significant difference (Kruskal-Wallis test, $p>0.05$, $p=0.24$). Since most of the captures (91.04%) occurred in demersal long-lining and trammel netting, a second analysis was conducted, focussing solely on catches in these two fisheries. However, no statistically significant difference was observed between demersal long-lining and trammel netting (Welch ANOVA, $p>0.05$, $p=0.68$; Kruskal-Wallis test, $p>0.05$, $p=0.32$).

Elasmobranch species vs. depth of capture

Depth of capture information was recorded for 51 specimens (76.12% of total elasmobranchs). The deepest depth of capture ranged from 500 to 600

m, with recreational anglers deploying a purpose-made shark tackle for game fishing targeting bluntnose sixgill shark (*Hexanchus griseus*); however, the majority of captures occurred at depths between 51 and 100 m (n=23; 45.10%), followed by the 0-50 m, 101-200 m (n=11; 21.57% for both strata), and >200 m depth ranges (n=6; 11.76%) (Fig. 3). No statistically significant difference was found between the numerical distribution of captured specimens and depth of capture (Kruskal-Wallis test, $p>0.05$, $p=0.38$).

Elasmobranch species vs. season of capture

The seasonal distribution of elasmobranch captures is depicted in Figure 4, showing occurrences throughout the year. Captures were most abundant in August (n=16; 23.88%), followed by April (n=13; 19.40%), July (n=10; 14.93%), and January (n=9; 13.43%). The percentage of elasmobranch species present in commercial catches during the remaining months was less than 10 percent (ranging from 8.96% to 1.49%) (Fig. 4), with a complete absence of any elasmobranch species in the video footages of commercial catches in May and October. Nevertheless, no statistically significant difference was found in the seasonal distribution of elasmobranch captures (Kruskal-Wallis test, $p>0.05$, p=0.17; Dunn's post hoc test, $p>0.05$).

Notes on reproductive biology of several rare and endangered elasmobranchs observed in the studied videos

A close examination of the video footage (n=31; total duration 9:10:05 hours) in this study has revealed remarkable data suggesting that the northeastern Aegean Sea may serve as a potential nursery and/or breeding ground for several rare and endangered elasmobranchs.

On 30 July 2023, a young-of-the-year bluntnose sixgill shark (*H. griseus*; TL ca. 150 cm) was incidentally captured in trammel net fishery at a 46-60 m depth range (Fig. 5a, b). The shark was completely motionless during the retention period onboard, and its post-release survival is uncertain.

On 22 June 2023, a newborn blue shark (*P. glauca*; TL ca. 50 cm) with a healing umbilical scar visible on the ventral surface between the pectoral fins, was incidentally captured in demersal longlines deployed at a depth of 109 m (Fig. 5c, d). The newborn blue shark was released alive.

On 14 April 2022, a pregnant female common angel shark (*S. squatina*) became entangled in trammel nets deployed at a depth range of 19 to 25 m off the southwestern coast of Gökçeada island. The specimen aborted an unknown number of near-term embryos onboard. On 3 March 2023, another pregnant female of *S. squatina* (TL ca. 170 cm) was captured by recreational anglers at a depth of 33 m, and aborted 5 near-term embryos upon being pulled onboard (Fig. 6a, b). In both instances, the pregnant females and pups were all released alive; however, their post-release survival status is not known. Available data suggest that mature and pregnant females, and juveniles (TL ca. 30—40 cm) frequently aggregate in the shallow areas (≤25 m depth) off the southwestern coast of Gökçeada island, while adult males occur more frequently in deeper areas (~60 m depth) between the island and the Gallipoli Peninsula.

Two mature females of *Mustelus mustelus* (TL ca. 110 cm and ca. 140 cm) and one year-of-the-young specimen (TL ca. 40 cm) were incidentally captured. Both females were retained and landed.

A juvenile shortfin mako shark (*Isurus oxyrinchus*; TL ca. 100 cm) was captured by a recreational angler off the northern coast of Gökçeada on 5 August 2023 (Fig. 6c).

Two female kite fin sharks (*Dalatias licha*; both TL ≥100 cm) were captured upon entanglement in trammel nets at a depth range of 171 to 300 m (Fig. 6d). Their swollen bellies suggested possible pregnancy, as preying on other specimens after becoming ensnared in trammel net, unlike when they get tangled in cod-ends of bottom trawls, may not be possible. Similarly, two mature female angular rough sharks (*Oxynotus centrina*; both TL ca. 60 cm) were captured individually in demersal longlining and trammel netting in the northern littoral waters of Gökçeada. Their swollen bellies suggested potential pregnancy.

No data were obtained on the reproductive biology of other elasmobranchs identified from the video footages.

DISCUSSION AND CONCLUSIONS

For the last 50 years, the chondrichthyan fauna of the northern Aegean Sea has been investigated by several researchers through general ichthyological inventory studies, megafauna observations, or elasmobranch-specific studies. In a general ichthyological inventory study, Papaconstantinou and Tortonese (1980) reported 15 species of demersal elasmobranchs from the Gulf of Thermaikos (northwestern Aegean Sea). Ulutürk (1987) identified 13 species of demersal and pelagic chondrichthyans in the waters surrounding the Gökçeada island (northeastern Aegean Sea). In a more recent general ichthyological inventory study, Eryılmaz (2003) documented 15 species of demersal sharks and batoids in the waters of the island of Bozcaada (also northeastern Aegean Sea).

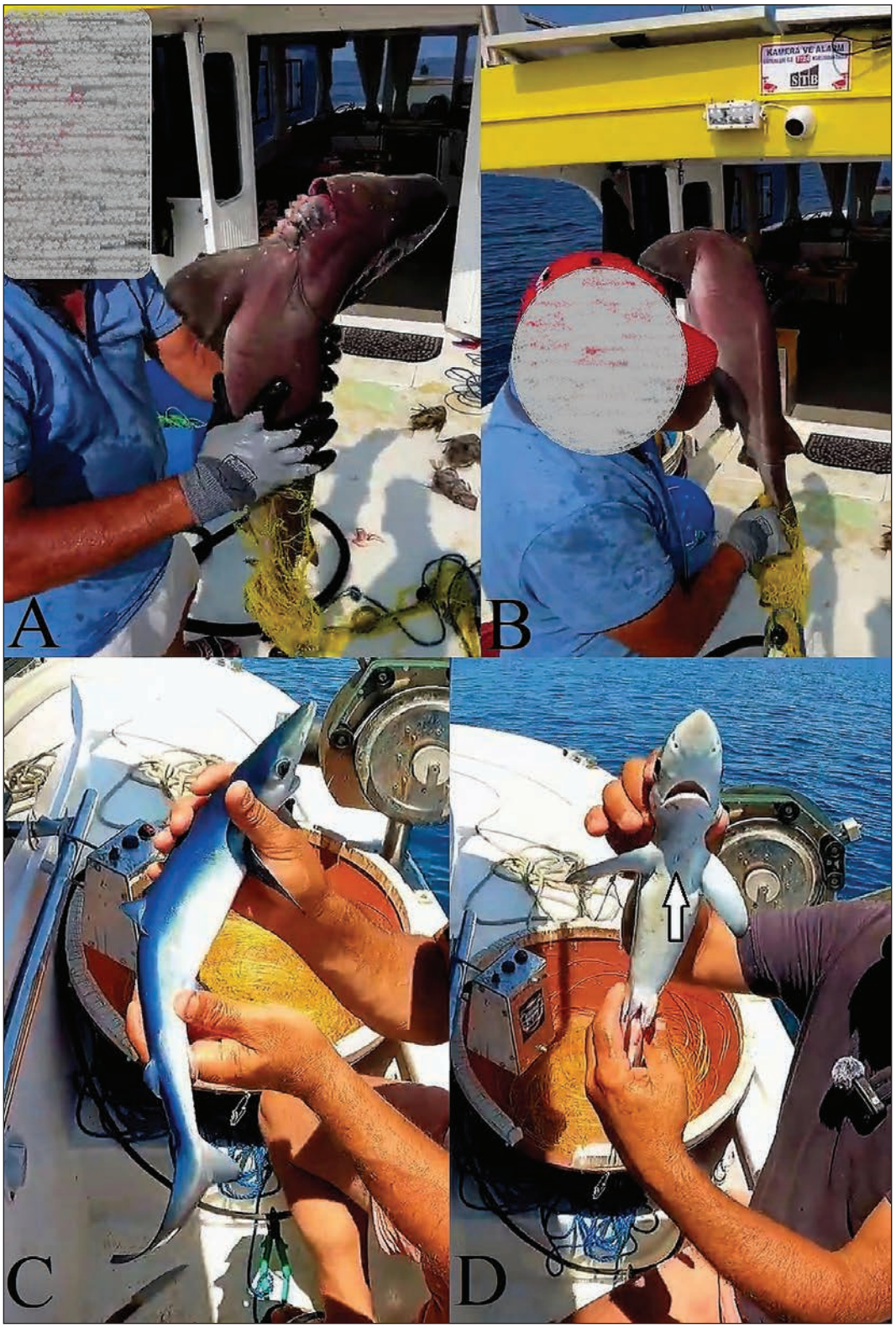

Fig. 5: (a, b) Juvenile specimen of *Hexanchus griseus* ***(TL ca. 150 cm); (c, d) newborn specimen of*** *P. glauca* ***(TL ca. 50 cm), arrow indicating the unhealed umbilical scar.***
Sl. 5: (a, b) Mladostni primerek vrste *H. griseus* ***(dolžina približno 150 cm); (c, d) novoskoteni primerek vrste*** *P. glauca* ***(dolžina približno 50 cm), puščica označuje nezaceljeno poporodno brazgotino.***

In one of the few studies specifically focussed on sharks, Kabasakal and Kabasakal (2004) recorded 20 species in the region, including megafauna members such as *Carcharodon carcharias* and *Cetorhinus maximus*, and rare squaliform sharks such as *D. licha* and *O. centrina*. According to Cengiz *et al.* (2011), the fish fauna of the Gulf of Saroz comprises 28 chondrichthyan species, including the rare lamniform shark, *Carcharias taurus*. However, since the authors have no information on where the examined specimen of the latter was deposited, this record is considered questionable. In an extensive study on the biodiversity of the northern Aegean Sea, Altuğ *et al.* (2011) reported the presence of 12 species of demersal sharks and batoids in the study area. In a recent survey on deep-sea fishes of the northern Aegean Sea, Gönülal (2016) recorded 13 species of chondrichthyans occurring in depths ranging between 500 and 1000 m.

The common feature of the studies mentioned so far is that the sampling method has always been extractive sampling, carried out using fishing gears such as bottom trawl, beam trawl, trammel net, gill net, or demersal longline. Also, for many years, fishery-dependent surveys have been the primary, if not the only, source of scientific information on most chondrichthyan species in the northern Aegean Sea and in the Mediterranean Sea (e.g., Kabasakal & Kabasakal, 2004; Damalas & Megalofonou, 2012; Sperone *et al.*, 2012; Kabasakal *et al.*, 2017). In recent years, however, the contribution of local ecological knowledge (LEK) and citizen science has steadily increased. And although social media-based data mining as a research method cannot substitute traditional stratified/random *in situ* surveys in the studies on chondrichthyans in the northern Aegean Sea, it can provide complementary data to fill the knowledge gaps arising from financial constraints or a shortage of researchers.

A recent study carried out by Taklis *et al.* (2020) underscored the value and importance of social media in collecting baseline information, while identifying and/or addressing important conservation issues related to sharks in Greece, with a specific mention of chondrichthyan records from the northern Aegean Sea. Kabasakal and Bilecenoğlu (2020) compiled an inventory of rare and large shark species in Turkish waters solely from internet-based news, which also included current northern Aegean records. Marine top predators found in the waters around Gökçeada have been investigated in a study that used LEK as a supporting tool for data collection (Kesici *et al.*, 2021) and reported rare occurrences of *C. carcharias* (n=2) and *I. oxyrinchus* (n=4) around the island. Following data mining digital archives and gathering supportive data from citizen science and social media, Moutopoulos *et al.* (2022) examined historical records of shark presence during the early developmental phases of the Greek fishery, highlighting historical records of *C. carcharias* and *C. maximus* in the northern Aegean Sea. As corroborated by the cited current studies (Kabasakal & Bilecenoğlu, 2020; Taklis *et al.*, 2020; Kesici *et al.*, 2021; Moutopoulos *et al.*, 2022), social media have proven to be an increasingly efficient tool in the efforts for the conservation of and raising awareness on large predatory sharks, which can notably supplement the monitoring of the cartilaginous fish status in a certain region and time interval (Boldrocchi & Storai, 2021; Casola *et al.*, 2022).

Fishery-dependent extractive surveys have revealed that chondrichthyan species are being incidentally captured in multi-modal fisheries operating across an extensive area of the northern Aegean Sea, ranging from the shallows of the continental shelf to bathyal grounds (≤ 1000 m depth) (Papaconstantinou & Tortonese, 1980; Ulutürk, 1987; Eryılmaz, 2003; Kabasakal & Kabasakal, 2004; Gönülal, 2016). The majority (>90%) of shark and batoid species identified in the present study were captured by small-scale fishermen (trammel-netters and demersal long-liners). This is consistent with the findings of Giovos *et al.* (2021), who emphasised that the underreporting of catches by small-scale fisheries poses a threat to elasmobranchs. According to Giovos *et al.* (2021), commercial gill-netting and demersal long-lining each contribute to over 40 percent of the bycatch of sharks and batoids in the north Aegean Sea. With the implementation of laws aimed at protecting cartilaginous fish, fishers tend to not report such catches, as highlighted by Giovos *et al.* (2021). Therefore, an ethical examination of the videos uploaded by fishermen on social media, driven as much by the desire to showcase their (legal) catches as by self-promotion (Monkman *et al.*, 2017; Shiffman, 2018), can be an effective method of recording previously unreported cartilaginous fish catches. The present preliminary study relies on the examination of 31 video footages, but a more comprehensive understanding of the bycatch impact would require the implementation of a questionnaire and onboard monitoring involving fisheries observers, and social media-based investigations complementing the data collected through large-scale fisheries surveys.

The present data set provides useful observations on the potential reproductive areas for

Fig. 6: (a) Pregnant female of *Squatina squatina* ***(TL ca. 170 cm) aborting near-term embryos while retained on board, with the arrow indicating the aborted specimen; (b) a near-term embryo of*** *S. squatina* ***before being released alive; (c) juvenile specimen of*** *Isurus oxyrinchus* ***(TL ca. 100 cm); (d) the arrow indicates a female specimen of*** *Dalatias licha* ***with two tub gurnards*** *(Chelidonichthys lucerna)* ***on the right.***
Sl. 6: (a) Breja samica vrste *Squatina squatina* ***(dolžina približno 170 cm), ki je na krovu splavila skoraj razvite zarodke, s puščico, ki označuje splavljen primerek; (b) skoraj popolno razvit zarodek vrste*** *S. squatina****, preden so ga živega izpustili; (c) mladostni primerek vrste*** *Isurus oxyrinchus* ***(dolžina približno 100 cm); (d) puščica označuje samico vrste*** *Dalatias licha* ***z dvema velikima krulcema*** *(Chelidonichthys lucerna)* ***na desni.***

several elasmobranch species in the area encompassing the islands of Gökçeada and Semadirek, the Gulf of Saroz, and the Gallipoli Peninsula. Previous occurrences of newborns, juveniles, and pregnant females in this region can be summarised as follows: Newborn specimens of *H. griseus* (TL 660 mm) and *D. licha* (TL range 338-372.5 mm), observed bearing unhealed umbilical scars, have been reported from the upper slope waters off the northern coast of the island of Gökçeada (Kabasakal & Kabasakal, 2002, 2004). Rare occurrences of newborn specimens of *O. centrina* observed in bottom-trawling have been reported from the Gulf of Thermaikos (TL

248 mm; Papaconstantinou & Tortonese, 1980) and off the southwestern coast of the island of Bozcaada (TL 225 mm; Eryılmaz, 2003). On 22 September 2008, a mature female of *O. centrina* carrying 12 developing ova (TL 651 mm) was captured in a scientific bottom-trawl survey in the Gulf of Saros (Yığın *et al.*, 2016). Taklis *et al.* (2020) reported captures of juvenile specimens of *P. glauca* (TW range 2000-5000 g) in commercial fisheries in various locations across the northern Aegean Sea. The capture of a newborn blue shark in demersal long-lining (which was subsequently released alive), documented in the present study, supports the suggestion that the northern Aegean Sea may serve as a parturition and nursery ground for *P. glauca*. Recent records of newborn specimens of *I. oxyrinchus* and *C. carcharias* from several locations in the northern Aegean Sea have been mentioned in Kabasakal (2015), Tunçer and Kabasakal (2016), Taklis *et al.* (2020), and Kabasakal *et al.* (2022).

While not included in the present study, juvenile specimens of *Etmopterus spinax* (TL range 120-227 mm), incidentally captured in commercial bottom-trawling at depths of 300 to 400 m, have also been reported (Kabasakal & Kabasakal, 2004). A juvenile specimen of *Squatina oculata* (TL 300 mm) and a subadult specimen of *S. squatina* (TL 750 mm) have been reported off the island of Gökçeada (Kabasakal & Kabasakal, 2004). İşmen *et al.* (2009) reported the observation of a newborn *S. squatina* (TL 232 mm) in the Gulf of Saros. In the present study, observations of newborn specimens and pregnant females of *S. squatina* confirmed the presumed areas of reproduction for the common angel shark in the northern Aegean Sea. Last but not least, pregnant females of *Mustelus asterias* (TL 1530 mm; bearing 21 near-term embryos) and of *S. blainville* (TL 870 mm; bearing 7 near-term embryos) have been incidentally captured in the Gulf of Saros (Kabasakal & Kabasakal, 2004). Therefore, past and recent occurrences of newborns, juveniles, and pregnant females in the studied region support the possibility of multiple elasmobranch nurseries across the shelf and bathyal grounds of the northern Aegean Sea. This has led to the designation of an Important Shark and Ray Area (ISRA) and an Area of Interest (AoI) (Jabado *et al.*, 2023).

The geographical area in which the study was conducted falls within the boundaries of the proposed buffer zone of the recently designated Thracian Sea Shelf ISRA on account of the presence of threatened species (e.g., *A. bovinus*), range-restricted species (*Raja radula*), reproductive areas (e.g., *S. canicula*), and undefined aggregations (*D. pastinaca*) (Jabado *et al.*, 2023). Furthermore, the geographical boundaries of the Truva Shelf AoI, where potential reproduction areas for *Squatina* species are assumed to exist, overlap with the southern part of the area investigated in the present study (Jabado *et al.*, 2023). As a result, the findings of this study contribute supportive new data that reinforce the establishment of the Thracian Sea Shelf ISRA and the Truva Shelf AoI.

Eight of the species identified in this study are protected in Turkish seas. In addition, the majority of these species (n=16; 76.19%) fall within the susceptible categories of Near Threatened, Vulnerable, Endangered, or Critically Endangered of the IUCN Red List (Otero *et al.*, 2019). The majority of captured elasmobranchs (n=63; 94.02%) were released alive without prolonged retention on deck and harsh handling, which is promising for the survival of bycaught elasmobranchs in the region. The fishermen's statements in the examined footages demonstrate their awareness of conservation laws as well as recognition of protected (e.g., *Squatina* spp., *O. centrina*) or vulnerable species (e.g., *D. licha*), as does their release of the captured specimens back to the sea. This corroborates the suggestion by Boldrocchi and Storai (2020) that social media can play a crucial role in raising fishermen's awareness about cartilaginous fish and bridging knowledge gaps.

To conclude, this study presents a regional example of a good practice in using social media films to gather additional and complementary information about the life histories and current status of elasmobranch species in a specific region. In recent years, the utilisation of footage published on social media films has emerged as an increasingly promising data collection method and an approach supported by the findings of various researchers (Boldrocchi & Storai, 2020; Mancusi *et al.*, 2020; Taklis *et al.*, 2020; Kesici *et al.*, 2021; Bargnesi *et al.*, 2020, 2022; Gallo *et al.*, 2022). Compared to traditional systematic scientific sampling, it is clear that this study approach still presents some uncertainties (e.g., TL information dependent on the statements of the fishermen) and weaknesses (e.g., the intervals at which the fishermen upload footage may not accurately reflect the true periodicity of fishing days). However, considering the *K-selected* life history characteristics of elasmobranchs (e.g., slow growth, late maturation, low fecundity, etc.) and the current extinction crisis that threatens their survival (Fowler *et al.*, 2005; Dulvy *et al.*, 2021), this non-invasive and non-extractive visual sampling method, if applied according to

the methodology described herein, can complement traditional systematic sampling by addressing the knowledge gaps that arise from limited research staff or expansion of the study area. Last but not least, the present study evidently suffers from a very small sample size. Therefore, more effort is needed before drawing any conclusions about the impact of bycatch on the populations of sharks and batoids in the northern Aegean Sea.

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Appendix 1: Elasmobranch species (n=67) captured in commercial fisheries in the northern Aegean Sea and appearing in social media videos, along with fishing data, remarks about the observed specimens, and sources of video footages. Specimen time code indicates the time interval during which an elasmobranch specimen is visible in the respective video.
Priloga 1: Hrustančnice (n=67 vrst), ujete v komercialnem ribolovu v severnem Egejskem morju, ki se pojavljajo v videoposnetkih v socialnih medijih, skupaj s podatki o ulovu, opombami v zvezi z opazovanimi primerki in viri videoposnetkov. Časovna koda primerka označuje časovni interval, v katerem je bil primerek opažen v danem videoposnetku.

Date	Locality	Depth (m)	Fishing gear	Species	Nr	Specimen time codes	Remarks	Source
14 Sep 2021	Gökçeada, off Yıldız Bay	85-92	Demersal long line	*Mustelus mustelus*	1	9:49-12-26	Female, TL ca. 110 cm; taken on board	https://www.youtube.com/watch?v=LeNLmXCKkm0
14 Sep 2021	Gökçeada, off Yıldız Bay	85-92	Demersal long line	*Raja clavata*	1	12:58-13:38	Female, DW ca. 40 cm; released alive	https://www.youtube.com/watch?v=LeNLmXCKkm0
14 Sep 2021	Gökçeada, off Yıldız Bay	85-92	Demersal long line	*Raja clavata*	1	13:48-14:14	Female, DW ca. 50 cm; released alive	https://www.youtube.com/watch?v=LeNLmXCKkm0
14 Sep 2021	Gökçeada, off Yıldız Bay	85-92	Demersal long line	*Raja clavata*	1	15:25-15:50	Male, adult, claspers very longer than pelvic fins and visible at the time code (15:29) of the source video; DW ca. 70 cm; released alive	https://www.youtube.com/watch?v=LeNLmXCKkm0
14 Sep 2021	Gökçeada, off Yıldız Bay	85-92	Demersal long line	*Mustelus mustelus*	1	16:40-19:20	Female, genital opening is visible at the time code (19:01) of the source video, TL ca. 140 cm; taken on board	https://www.youtube.com/watch?v=LeNLmXCKkm0
20 Nov 2021	Between Gökçeada and Semadirek islands, off SW of Semadirek island, between Enez and Gökçeada	102-107	Demersal long line	*Squalus blainville*	1	22:17-22:36	Female, genital opening is visible at the time code (22:30) of the source video, TL ca. 50 cm; released alive; depth information given at the time codes (18:32 and 33:55)	https://www.youtube.com/watch?v=PNcCAyt7f7g
20 Nov 2021	Between Gökçeada and Semadirek islands, off SW of Semadirek island, between Enez and Gökçeada	102-107	Demersal long line	*Myliobatis aquila*	1	22:44-23:08	Female, DW ca. 100 cm; dorsal fin is behind pelvic fins (22:48); released alive; depth information given at the time codes (18:32 and 33:55)	https://www.youtube.com/watch?v=PNcCAyt7f7g
15 Dec 2021	Between Gökçeada and Semadirek islands, around Zürafa rocks point	90-320	Demersal long line	*Scyliorhinus stellaris*	1	21:15-21:53	Female, TL ca. 100 cm; released alive; depth information is given at the time codes (3:18-3:21) of the source video	https://www.youtube.com/watch?v=rTr1_WgVA84
15 Dec 2021	Between Gökçeada and Semadirek islands, around Zürafa rocks point	90-320	Demersal long line	*Myliobatis aquila*	1	29:57-30:35	Female, DW ca. 100 cm; no claspers (30:31); dorsal fin is behind pelvic fins (30:35); released alive; depth information is given at the time codes (3:18-3:21) of the source video	https://www.youtube.com/watch?v=rTr1_WgVA84
15 Jan 2022	Between Gökçeada and Semadirek islands, around Zürafa rocks point	?	Demersal long line	*Myliobatis aquila*	1	8:45-8:56	DW ca. 60 cm; released alive	https://www.youtube.com/watch?v=lHfYuOwNoIk
15 Jan 2022	Between Gökçeada and Semadirek islands, around Zürafa rocks point	?	Demersal long line	*Squalus blainville*	1	16:04-16:26	TL ca. 40 cm; released alive	https://www.youtube.com/watch?v=lHfYuOwNoIk

15 Jan 2022	Between Gökçeada and Semadirek islands, around Zürafa rocks point	?	Demersal long line	*Mustelus mustelus*	1	21:49-22:04	TL ca. 40 cm; released alive	https://www.youtube.com/watch?v=lHfYuOwNolk
1 Apr 2022	Gökçeada-Büyükkemikli	500-600	Rod and reel	*Hexanchus griseus*	1	14:40-19:45	Captured with a purpose-made shark rig for big game fishery, baited with bonito, *Sarda sarda*, released alive, TL ca. 450 cm, female	https://www.youtube.com/watch?v=k6T-LjX8kN0
7 Apr 2022	Tuzla	14-16	Trammel net	*Squatina squatina*	1	1:43-2:27	All female and released alive	Video provided by the fisherman and available on request
14 Apr 2022	Between Kaşkaval cape and Kbatepe on mainland	70	Demersal long line	*Aetomylaeus bovinus*	1	6:10-6:30	Claspers are visible between the time codes (6:10-6:30) of the source video, released alive	https://www.youtube.com/watch?v=bF8lwek96sc
14 Apr 2022	Between Kaşkaval cape and Kabatepe on mainland	70	Demersal long line	*Aetomylaeus bovinus*	1	14:19-14:54	Claspers are visible at the time code (14:44) of the source video, released alive	https://www.youtube.com/watch?v=bF8lwek96sc
14 Apr 2022	Between Kaşkaval cape and Kabatepe on mainland	70	Demersal long line	*Mustelus asterias*	1	9:15-9:50	Landed for auction	https://www.youtube.com/watch?v=bF8lwek96sc
14 Apr 2022	Between Kaşkaval cape and Kabatepe on mainland	70	Demersal long line	*Oxynotus centrina*	1	10:28-12:46	Female, TL ca. 60 cm, genital opening is visible at the time code (11:56) of the source video, released alive	https://www.youtube.com/watch?v=bF8lwek96sc
14 Apr 2022	Between Kaşkaval cape and Kabatepe on mainland	70	Demersal long line	*Dipturus* sp.	1	13:10-13:32	Released alive	https://www.youtube.com/watch?v=bF8lwek96sc
14 Apr 2022	Pirgos	19-25	Trammel net	*Squatina squatina*	1	1:15-1:30	Pregnant female, aborted nearterm embryons onboard, all released alive but their post-release survival status uncertain	Video provided by the fisherman and available on request
6 Jun 2022	Tepeköy coast	10-15 m	Trammel net	*Torpedo* sp.	1	12:51-13:00	Released alive	https://www.youtube.com/watch?v=iNbVVQoQs-g
10 Jun 2022	Kefaloz	20	Trammel net	*Squatina squatina*	1	0:00-1:07	4 adult females (TL 80-90 cm and TW 10-20 kg) 4 juveniles (TL 30-40 cm), sexes not reported	Video provided by the fisherman and available on request
11 Aug 2022	Between Kaşkaval cape and Kabatepe on mainland	60	Trammel net	*Torpedo marmorata*	1	5:43-5:46 13:37-13:50	Spiracle tentacles and dorsal texture are visible between the time codes (13:37-13:39) of the source video, released alive	https://www.youtube.com/watch?v=Wv3ck9wCsqU
11 Aug 2022	Between Kaşkaval cape and Kabatepe on mainland	60	Trammel net	*Squatina squatina*	1	7:31-7:50	Male, claspers are visible at the time code (7:40) of the source video, released alive	https://www.youtube.com/watch?v=Wv3ck9wCsqU
11 Aug 2022	Between Kaşkaval cape and Kabatepe on mainland	60	Trammel net	*Squatina squatina*	1	7:59-8:01	Specimen is visible at the time codes (7:59-8:01) of the source video, released alive	https://www.youtube.com/watch?v=Wv3ck9wCsqU
11 Aug 2022	Between Kaşkaval cape and Kabatepe on mainland	60	Trammel net	*Squatina squatina*	1	9:52-10:12	Specimen is visible at the time codes (9:52-10:12) of the source video, juvenile male with minute claspers shorter than pelvic fins (10:09), released alive	https://www.youtube.com/watch?v=Wv3ck9wCsqU
17 Aug 2022	North coast of Gökçeada	?	Demersal long line	*Myliobatis aquila*	1	10:18-10:24	Released alive	https://www.youtube.com/watch?v=fgXlKx2dUTo

17 Aug 2022	North coast of Gökçeada	?	Demersal long line	*Scyliorhinus canicula*	1	23:20-23:29	Released alive	https://www.youtube.com/watch?v=fgXlKx2dUTo
2 Sep 2022	Between Gökçeada and Semadirek islands, around Zürafa rocks point	95-100	Demersal long line	*Rostroraja alba*	1	13:39-14:03	Immature male, short clasper is visible at the time code (13:49) of the source video; snout very long and pointed (13:51); tip of pectoral fins angular (13:52); released alive	https://www.youtube.com/watch?v=rgtYVaHoLPI
1 Jan 2023	North coast of Gökçeada	117-171	Demersal long line	*Squalus blainville*	1	13:51-14:10	Female, genital opening is visible at the time code (14:08) of the source video; released alive	https://www.youtube.com/watch?v=3b0gHFvSQyE
14 Jan 2023	Between Kefaloz point and Kabatepe on mainland	27	Trammel net	*Leucoraja naevus*	1	12:39-12:50	Male, claspers are visible at the time code (12:43) of the source video, released alive	https://www.youtube.com/watch?v=LBkx3zFGE-Y
14 Jan 2023	Between Kefaloz point and Kabatepe on mainland	27	Trammel net	*Squatina squatina*	1	15:33-16:00	Subadult male, claspers are visible at the time code (15:52) of the source video, released alive	https://www.youtube.com/watch?v=LBkx3zFGE-Y
14 Jan 2023	Between Kefaloz point and Kabatepe on mainland	27	Trammel net	*Squatina squatina*	1	16:32-16:52	Subadult male, claspers are visible at the time code (16:33) of the source video, released alive	https://www.youtube.com/watch?v=LBkx3zFGE-Y
14 Jan 2023	Between Kefaloz point and Kabatepe on mainland	27	Trammel net	*Squatina squatina*	1	17:00-17:11	Released alive	https://www.youtube.com/watch?v=LBkx3zFGE-Y
14 Jan 2023	Between Kefaloz point and Kabatepe on mainland	27	Trammel net	*Leucoraja* sp.	1	17:46-17:55	Released alive	https://www.youtube.com/watch?v=LBkx3zFGE-Y
14 Jan 2023	Between Kefaloz point and Kabatepe on mainland	27	Trammel net	*Squatina squatina*	1	19:34-19:48	Both released alive	https://www.youtube.com/watch?v=LBkx3zFGE-Y
3 Feb 2023	Between Gökçeada and Semadirek islands, around Zürafa rocks point	231	Demersal long line	*Myliobatis aquila*	1	11:31-11:38	Released alive	https://www.youtube.com/watch?v=nXo9pPNUcvk
3 Feb 2023	Between Gökçeada and Semadirek islands, around Zürafa rocks point	231	Demersal long line	*Squalus blainville*	1	12:03-12:28	Female, genital opening is visible at the time code (12:26) of the source video; no anal fin; TL ca. 50 cm; released alive	https://www.youtube.com/watch?v=nXo9pPNUcvk
3 Feb 2023	Between Gökçeada and Semadirek islands, around Zürafa rocks point	231	Demersal long line	*Squalus blainville*	1	15:14-15:27	Female, genital opening is visible at the time code (15:16) of the source video; no anal fin; TL ca. 50 cm; released alive	https://www.youtube.com/watch?v=nXo9pPNUcvk
3 Feb 2023	Between Gökçeada and Semadirek islands, around Zürafa rocks point	231	Demersal long line	*Myliobatis aquila*	1	16:20-16:23	DW ca. 100 cm, released alive	https://www.youtube.com/watch?v=nXo9pPNUcvk
3 Mar 2023	Çanakkale Strait, southern entrance	?	Recreational angling	*Squatina squatina*	1	0:00-1:20	1 pregnant female, TL ca. 170 cm, giving birth on board; 5 newborns; all released alive, but post-release survival is unknown	https://www.instagram.com/reel/CpUZYMOghmz/?igshid=YmMyMTA2M2Y=

22 Apr 2023	Between Gökçeada and Semadirek islands, around Zürafa rocks point	86	Demersal long line	*Squalus blainville*	1	7:20-7:42	Female, genital opening is visible at (7:40); time codes of the descriptive characters in the source video are as follows: free rear tips of pectoral fins, and continous posterior edge of caudal fin (7:40), spurs in front of dorsal fins (7:41), released alive	https://www.youtube.com/watch?v=TbSdp2-F0Tg
22 Apr 2023	Between Gökçeada and Semadirek islands, around Zürafa rocks point	86	Trammel net	*Scyliorhinus stellaris*	1	11:59-13:02	Female, genital opening is visible at the time code (12:54) of the source video, TL ca. 100 cm; descriptive characters are visible at the following time codes: widely separated nasal flaps (12:35), dorsally positioned long eyes (12:35), released alive	https://www.youtube.com/watch?v=TbSdp2-F0Tg
12 Jun 2023	Between Gökçeada and Semadirek islands, around Zürafa rocks point	103	Trammel net	*Squalus blainville*	1	9:04-10:22	All released alive; time codes of the descriptive characters in the source video are as follows: white coloration of the posterior edge of first dorsal fin (9:10), white coloration and continous contour of the ventral edge of upper caudal lobe (9:12), free rear tip of pectoral (9:13) and spur (11:53)	https://www.youtube.com/watch?v=PegjsdVPFMg
12 Jun 2023	Between Gökçeada and Semadirek islands, around Zürafa rocks point	103	Trammel net	*Myliobatis aquila*	1	15:21-15:35	Female, genital opening is visible at the time code (15:29) of the source video; some other descriptive characters are visible at the following time codes of the same video; whip-shaped tail (15:30), short and obtuse snout (15:32) released alive	https://www.youtube.com/watch?v=PegjsdVPFMg
19 Jun 2023	Between Gökçeada and Semadirek islands	300	Trammel net	*Dalatias licha*	1	0:00-0:11	Not alive, the swollen belly of the specimen suggests that it was a pregnant female, TL > 100 cm	https://www.instagram.com/reel/Ctqe3IUASpc/?igshid=MzRlODBiNWFlZA==
8 Jly 2023	Between Gökçeada and Semadirek islands, around Zürafa rocks point	125	Demersal long line	*Dasyatis pastinaca*	1	16:13-16:24	Released alive	https://www.youtube.com/watch?v=HXFlrVvayR8
15 Jly 2023	Between Gökçeada and Semadirek islands, around Zürafa rocks point	171	Trammel net	*Dalatias licha*	1	10:35-10:45	Not alive, the swollen belly of the specimen suggests that it was a pregnant female, TL > 100 cm	https://www.youtube.com/watch?v=y8yU1bgrfJM
15 Jly 2023	Between Gökçeada and Semadirek islands	?	Pelagic long line for sword fish	*Alopias vulpinus*	1	1:30-1:52	Female, TL ca. 400 cm	Video provided by the fisherman and available on request
15 Jly 2023	Between Gökçeada and Semadirek islands	?	Pelagic long line for sword fish	*Prionace glauca*	1	0:00-1:00	Female, TL 250-300 cm	Video provided by the fisherman and available on request
22 Jly 2023	Between Gökçeada and Semadirek islands, around Zürafa rocks point	109	Demersal long line	*Prionace glauca*	1	14:14-15:23	New-born female; TL ca. 50 cm, healing umblical scar on ventral surface is visible at the time code (14:52) of the source video, released alive	https://www.youtube.com/watch?v=-BtS00_DN8Q
30 Jly 2023	Between Gökçeada and Semadirek islands, around Zürafa rocks point	46-60	Trammel net	*Scyliorhinus* sp.	1	10:29-10:31	Released alive	https://www.youtube.com/watch?v=ZX6VglNwdcM

30 Jly 2023	Between Gökçeada and Semadirek islands, around Zürafa rocks point	46-60	Trammel net	*Oxynotus centrina*	1	16:48-17:43	Female, TL ca. 60 cm, genital opening is visible at the time code (17:35) of the source video; retained in a recirculating water container to recovery, then released alive	https://www.youtube.com/watch?v=ZX6VglNwdcM
30 Jly 2023	Between Gökçeada and Semadirek islands, around Zürafa rocks point	46-60	Trammel net	*Hexanchus griseus*	1	19:28-21:34	TL ca. 150 cm, juvenile, the following descriptive characters are visible at the time codes of the source video: 6 gill slits (21:05), single dorsal fin (21:06) and dentition (21:15); the specimen swallowed a piece of net and spiral valve is extended out from the cloaca (19:30-19:35); fishermen released the specimen, but it‘s post-release survival is not certain	https://www.youtube.com/watch?v=ZX6VglNwdcM
30 Jly 2023	Between Gökçeada and Semadirek islands, around Zürafa rocks point	46-60	Demersal long line	*Dasyatis* sp.	1	38:23-38:37	Breake the line and escaped	https://www.youtube.com/watch?v=ZX6VglNwdcM
31 Jly 2023	Saroz Bay	33	Recreational angling	*Torpedo marmorata*	1	0:00-0:23	In the footage it is visible that the head and pectoral fins are fused, head-pectoral fin complex moving with continous undulations, and the origin of the second dorsal fin is at the level of pelvic fin tips; released alive	https://www.instagram.com/reel/CvULGBnN4wR/?igshid=MTc4MmM1YmI2Ng==
4 Aug 2023	Entrance of Saroz Bay, Büyükkemikli	?	Demersal long line	*Squalus blainville*	1	5:16-5:28	Released alive	https://www.youtube.com/watch?v=jAlyQD-U2as
4 Aug 2023	Entrance of Saroz Bay, Büyükkemikli	?	Demersal long line	*Raja* sp.	1	5:31-5:46	Released alive	https://www.youtube.com/watch?v=jAlyQD-U2as
4 Aug 2023	Entrance of Saroz Bay, Büyükkemikli	?	Demersal long line	*Dasyatis* sp.	1	5:48-6:03	Released alive	https://www.youtube.com/watch?v=jAlyQD-U2as
4 Aug 2023	Entrance of Saroz Bay, Büyükkemikli	?	Trammel net	*Scyliorhinus* sp.	1	14:16-14:23	Released alive	https://www.youtube.com/watch?v=jAlyQD-U2as
4 Aug 2023	Entrance of Saroz Bay, Büyükkemikli	?	Trammel net	*Scyliorhinus* sp.	1	22:32-22:50	TL ca. 100 cm; released alive	https://www.youtube.com/watch?v=jAlyQD-U2as
4 Aug 2023	Entrance of Saroz Bay, Büyükkemikli	?	Trammel net	*Squalus blainville*	1	24:23-24:45	TL ca. 50 cm; released alive	https://www.youtube.com/watch?v=jAlyQD-U2as
5 Aug 2023	Gökçeada	?	Pelagic long line for sword fish	*Isurus oxyrinchus*	1	0:00-0:38	TL ca. 100 cm; no umblical scar is visible between pectoral fins on ventral surface; released alive	https://www.tiktok.com/@agasonfishing/video/7263391305470872837?_t=8egjCQnMnZd&_r=1
8 Aug 2023	Gökçeada	224-300	Trammel net	*Raja miraletus*	1	5:46-6:00	DW ca. 40 cm; retained onboard	https://www.youtube.com/watch?v=u2pLcdiKCds
8 Aug 2023	Gökçeada	224-300	Trammel net	*Squatina oculata*	1	11:42-12:20	Female, TL ca. 120 cm; released alive	https://www.youtube.com/watch?v=u2pLcdiKCds
8 Aug 2023	Gökçeada	160	Demersal long line	*Scyliorhinus stellaris*	1	21:20-21:25	Female, TL ca. 100 cm; depth information is given at the time code (16:44-16:46) of the source video; released alive	https://www.youtube.com/watch?v=u2pLcdiKCds
8 Aug 2023	Gökçeada	160	Demersal long line	*Raja clavata*	1	22:01-22:12	Female, DW ca. 50 cm; released alive	https://www.youtube.com/watch?v=u2pLcdiKCds

PRELIMINARNA RAZISKAVA O MORSKIH PSIH IN SKATIH, UJETIH V KOMERCIALNEM RIBIŠTVU SEVERNEGA EGEJSKEGA MORJA NA OSNOVI PODATKOV IZ SOCIALNIH MEDIJEV

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POVZETEK

V zadnjih letih so filmi v socialnih medijih vedno bolj uporabni kot obetavna metoda za pridobivanje podatkov o hrustančnicah. Pričujoča raziskava predstavlja primer dobre prakse pri uporabi filmov v socialnih medijih za zbiranje dodatnih in dopolnilnih informacij o morskih psih in skatih v severnem Egejskem morju. V pregledanih videoposnetkih je avtor prepoznal 67 primerkov morskih psov in skatov, ki so pripadali 8 redovom, 15 družinam in 21 vrstam. Večina je bilo morskih psov. Naključno ujete hrustančnice so bile ujete s pridnenim ribolovnim orodjem, pri čemer so dobro polovico primerkov ujeli s parangalom. Naključni ulovi novoskotenih primerkov sinjega morskega psa (Prionace glauca) in navadnega sklata (Squatina squatina) podpirajo domnevo, da lahko predstavlja severno Egejsko morje jaslice za obe vrsti morskih psov.

Ključne besede: hrustančnice, ulovi, ohranjanje, socialni mediji, oportunistično vzorčenje

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