PROGRESS REPORT

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Effective Conservation and Research of Threatened Sharks, Skates and Rays through Rescue, Rehabilitation, Tagging and Re-Introduction

By

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Contents

Acoustic Telemetry Workshop

Education and Media Spotlight

Field Research Quick Overview

Research and Discoveries

Rescue Rehabilitation and Re-introduction

Featured Species

ACOUSTIC TELEMETRY WORKSHOP

Vlorë, Albania

The inaugural Acoustic Telemetry Workshop, hosted in Vlorë on March 15-16, marked a significant milestone for regional collaboration and knowledge exchange in terms of telemetry research in the Adriatic-Ionian region. Organized with great honor and enthusiasm by Sharklab ADRIA and InnovaSea, the event featured insightful lectures by an leading expert from Innovasea, Dr. Andre Steckenreuter, delving into the intricacies of acoustic telemetry. Attendees gained comprehensive insights into the application of acoustic telemetry in monitoring both marine and freshwater environments.

Besides, the workshop showcased the collective efforts of guest speakers from Sharklab ADRIA and partner unversites and organizations from Greece, Montenegro, and Slovenia, who presented their ongoing and emerging projects in the Adriatic Sea, providing valuable perspectives on the current states of target species. Notably, Sharklab ADRIA, at the forefront of innovation, announced plans to deploy acoustic receivers, tag critically endangered elasmobranch species, and monitor their activities in Albanian waters—a groundbreaking initiative poised to generate crucial data for the effective protection of species and habitats in the southernmost Adriatic.

Dr. Andre from Innovasea played a pivotal role in the workshop, generously sharing expertise and knowledge, a gesture for which heartfelt gratitude was expressed. The enchanting city of Vlore, expertly guided by our colleagues Kostandin Xhaho, M.Sc. and Endora Celohoxhaj, M.Sc., provided the backdrop for this exceptional learning experience, leaving an indelible impression on every participant. The diverse and international gathering of participants from Croatia, Montenegro, Slovenia, Albania, Italy, Greece, Turkey, the United Kingdom, Netherlands, Norway, Spain, and Germany added richness to the collaborative atmosphere. The workshop not only aimed at fostering and initiating regional research collaborations but also featured in-depth sessions on Innovasea's Acoustic Telemetry Technology, study design, VPS fine-scale positioning, array deployment, data management and analysis, and the introduction of new products.

This gathering of minds and expertise undoubtedly contributed to the enhancement of skills among the participants. As a testament to the success of the workshop, the hope resonates for future collaborations and the possibility of hosting such a distinguished group again in the not too distant future. The shared commitment to advancing knowledge in acoustic telemetry reflects a positive step toward environmental protection and sustainable practices in the Adriatic-Ionian region, particularly in Albania—an entity still navigating its path in safeguarding its natural treasures.

Introduction by Andre Steckenreuter regional manager from InnovaSea (left) and lecture „Multidisciplinary approach and emerging projects addressing the gaps in shark research in the Adriatic-Ionian region: status & perspectives“ by Andrej Gajić, co-organizer of the workshop (right).

The workshop had an interactive character, where all participants familiarized themselves with the basic principles and working principles of acoustic telemetry, as well as its applications in research.

Exploring Acoustic Telemetry: Andre Steckenreuter Guides Research Applications (Left) Workshop Organizers and Participants (Right): Sabina Cano, Emina Karalić, Andrej Gajić, and Kostandin Xhaho. Photos: Sharklab ADRIA.

Participants Enjoying an Excursion in Vlorë

Vising most important heritage in Zvernec, St. Mary's medieval Byzantine Orthodox Monastery built on thirteenth or fourteenth century.

A jubilant gathering of workshop participants, radiating joy and camaraderie as they celebrate shared knowledge and newfound connections. Smiles abound, capturing the spirit of collaboration and learning during this memorable workshop experience.

Acoustic Telemetry Workshop

Sharklab ADRIA

15-16 March 2023 in Vlorë, Albania

www.sharklab-adria.org
www.innovasea.com/fish-tracking

Join Dr. Andre Steckenreuter of Innovasea for a comprehensive workshop to learn more about how Innovasea's acoustic telemetry products and systems can help you understand the behaviour and migration of animals in any aquatic environment.

Workshop Topics

- Foster & initiate regional research collaborations
- Innovasea's Acoustic Telemetry Technology Overview
- Designing a Successful Study (hardware selection, tag programming, range testing)
- VPS Fine-Scale Positioning
- Array Deployment
- Data Management & Analysis
- Introduction of New Products

Please RSVP your attendance (together with any dietary requirements) to:

Andre Steckenreuter
Regional Manager Europe
andre.steckenreuter@innovasea.com

Andrej A. Gajić
Research scientist
agajic@sharklab-adria.org

This workshop is free of charge.
Lunch and afternoon coffee breaks will be provided.

www.innovasea.com/fish-tracking

EDUCATION AND MEDIA SPOTLIGHT

The project, "Effective Conservation and Research of Threatened Sharks, Skates, and Rays through Rescue, Rehabilitation, Tagging, and Re-Introduction," has diligently endeavored to broaden its influence beyond the scope of direct research and conservation endeavors. In pursuit of this goal, the project has actively organized a multitude of educational and awareness-raising events. These initiatives encompass a range of activities, including lectures at esteemed summits, hosting interactive workshops tailored for students, and conducting educational meetings with local fishermen.

The Sarajevo Innovation Summit, organized by the University of Sarajevo, Economic Institute, and USAID, served as a pivotal gathering that brought together prominent global experts in innovation. This event provided a unique forum for collaboration and dialogue among representatives from business, government, civil society, diplomatic circles, and academia. The overarching aim was to delve into the ways in which innovation could propel essential goals related to energy security, climate neutrality, and nature conservation. Andrej's participation in the summit as a keynote speaker marked a significant highlight. His role was instrumental in articulating the profound importance of sustainable fisheries and shark conservation in the Adriatic-Ionian region. By addressing this distinguished audience, Andrej effectively contributed to the discourse on the critical intersections between innovation, environmental sustainability, and the preservation of marine ecosystems.

Andrej passionately addressing the audience, advocating for sustainable fisheries and shark conservation during his impactful speech at the Sarajevo Innovation Summit.

In April, Sharklab ADRIA organized two unique workshops in Vlorë, Albania: "Sharks, Skates, and Rays of the Southern Adriatic Sea: Diversity, Status, and Perspectives" and "Pathomorphological Examinations of Sharks, Skates, and Rays." These workshops marked the first of their kind in Albania, designed for students and young experts seeking to understand the elasmobranchs in the southern Adriatic Sea, particularly in the Albanian region. Participants had the chance to explore the region's diverse marine life, focusing on rare and threatened species and their effective conservation. The workshops delved into ongoing studies and the challenges faced by these populations, covering topics from the physiology of post-capture stress in elasmobranchs to the dynamics of pollution in marine environments. The goal was to provide practical insights into preserving these species in the Adriatic Sea and connect scientific knowledge with tangible conservation efforts. Lectures were prepared by graduate students and Sharklab ADRIA interns from the IMBRSea Erasmus + program, under the supervision of Andrej Gajić. The second part of the workshop allowed participants to engage in hands-on experiences, actively participating in macroscopic pathomorphological examinations of sharks, skates, and rays. This involved autopsies to identify organ systems and potential tissue changes, with a specific focus on eight common elasmobranch species in Vlorë. The interactive session extended to assessing tissues for histopathology, immunohistochemistry, immunological biomarkers, and micro- and nanoplastic evaluations. A notable highlight was the chance to witness the autopsy of an adult blue shark, offering insights into its reproductive biology, feeding preferences, and potential threats.

Hands-on learning at Sharklab ADRIA workshop in Vlorë, Albania. A unique glimpse into the autopsy of an adult blue shark adds depth to their understanding of marine pathology and conservation

During the course of the project, I had the privilege of delivering lectures to the youngest participants in Neum during the Lignjolov Cup. This opportunity allowed me to engage with over 50 kids, creating a memorable experience as we explored the wonders of marine life together. The focus was on empowering the next generation of planetary stewards, fostering awareness about the rich diversity of our oceans, the potential threats they face, and the importance of conservation efforts. Beyond the direct engagement with the children, the impact of these educational sessions extended to over 300 people, including families and attendees at the Lignjolov Cup event. It was a rewarding experience to contribute to the education of not only the young minds present but also to inspire broader communities about the significance of preserving our marine ecosystems.

Andrej, inspiring the next generation of planetary stewards, presents awards after a lecture on the diversity and preservation of marine fauna in Bosnia and Herzegovina. Captured during the Lignjolov Neum event.

Addiotnally, we have organized numerous informal meetings and educational sessions for local fishermen, often in the form of dinners held at their local bars in the Triport harbor. These gatherings have proven to be valuable opportunities for building connections and acquiring local ecological knowledge about elasmobranchs. Recognized as crucial sources of information regarding rare elasmobranch species (Stephenson, 2016; Giovos et al., 2019; Becerril-García et al., 2020; McDavitt & Kyne, 2020), these engagements have provided insights into the local marine ecosystems. Additionally, we have taken an active role in educating fishermen on the proper handling of certain species, aiming to enhance post-release survival rates. Our educational efforts extend to helping fishermen recognize and report different species encountered during their activities. To amplify our impact, we have collaborated with other environmental organizations in Albania, including CELIM and PPENA, fostering a collaborative approach to marine conservation and community engagement.

Insights captured during an interactive dinner event organized in collaboration with PPNEA, where local fishermen and conservation enthusiasts come together to share knowledge and experiences, fostering a collaborative approach to marine conservation in Albania. Photos: E. Karalić, A. Gajić.

An international event is underway at the Eco Campus "Krka" in Puljani, hosting scientists and researchers from National Geographic. From October 19 to October 22, 2023, attendees engage in meetings, lectures, and field visits to explore nature research and conservation. This marks the inaugural in-person meeting of the Southeast Europe and Middle East, fostering connections and knowledge exchange. The program includes various activities, from researcher introductions to a documentary screening and a field visit to the National Park "Krka." The event, held at the Eco Campus, exemplifies its role as an educational hub, providing accommodations at the Titius Hostel. This offers a unique opportunity for journalists to gain insights into nature research and conservation while interacting with National Geographic representatives. As a National Geographic expert reviewer and explorer, Andrej delivered a lecture on elasmobranchs in the Adriatic Sea. The presentation highlighted the current state of these marine species, discussed perspectives for their conservation, and shed light on regional conservation efforts.

Atmosphere electrified with curiosity and enthusiasm during the NatGeo meeting in Croatia.

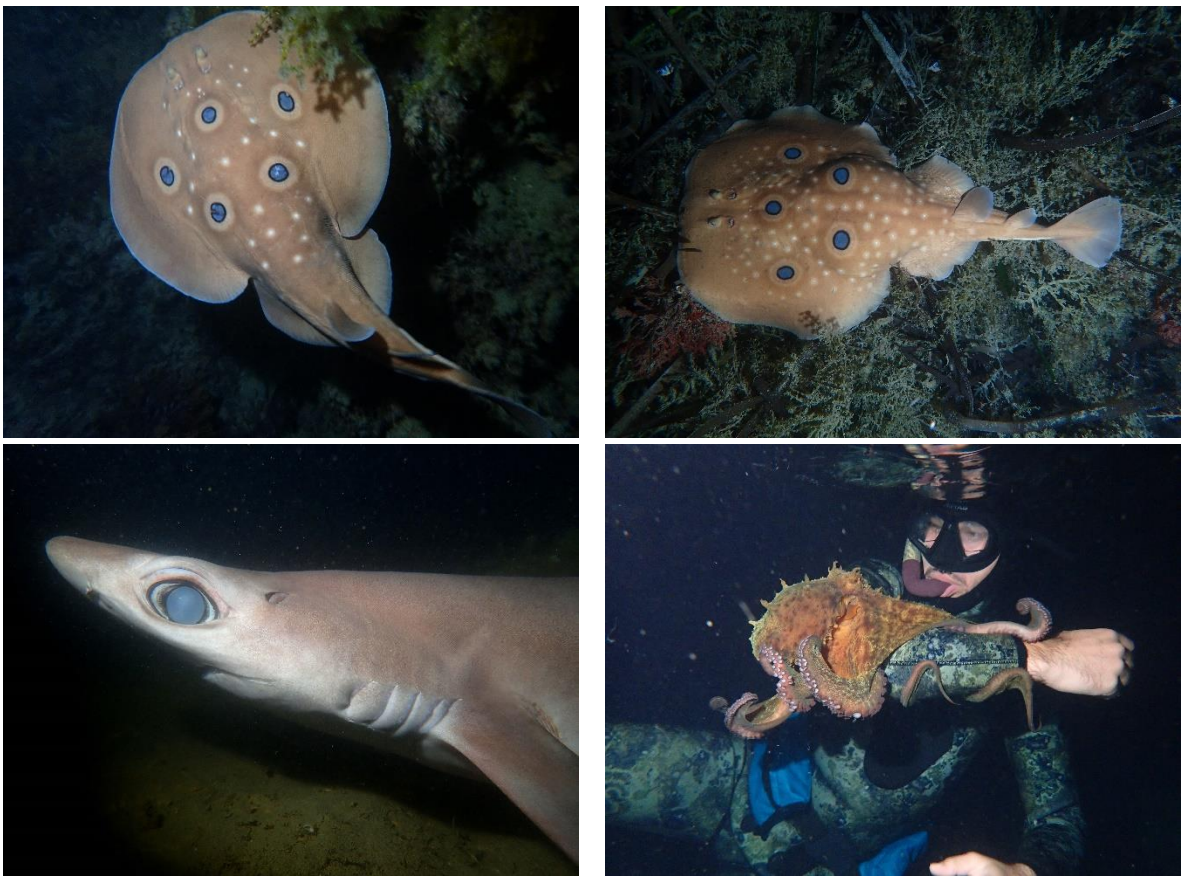
Throughout the year, I actively engaged in various media platforms, participating in numerous TV shows, interviews, and podcasts. These opportunities allowed me to share insights, expertise, and perspectives on topics ranging from marine conservation to elasmobranch research. It was a fulfilling experience to contribute to public discourse and raise awareness about the importance of preserving our oceans and marine biodiversity.

Showcasing our rehabilitation and conservation endeavors on prominent media platforms, emphasizing the dedication to marine life preservation.

FISHERY SURVEYS & FIELD RESEARCH

The primary objective of our field research was to provide reliable data crucial for establishing effective in-situ conservation measures, as well as supporting the rescue, rehabilitation, and re-introduction of threatened species, thereby contributing to conservation programs. Our methodologies adhere closely to established practices and scientific literature, yielding novel insights into the biological traits, reproduction, threats, and diseases of elasmobranchs (i.e., Adimey et al., 2012; Mullineaux 2014; Guy et al. 2014; Pyke & Szabo, 2018; Gajić et al., 2020, 2022, 2023). The scientific findings from our research have significantly advanced the understanding of numerous species previously considered very rare in this region, concurrently improving post-release survival rates for elasmobranchs caught as by-catch. Through such comprehensive efforts, our research center aspires to play a pivotal role in elasmobranch research, welfare, law enforcement support, and education in the Adriatic-Ionian region.

Through underwater explorations, we gathered firsthand insights into the studied ecosystems up to 90 m deep in the southern Adriatic Sea. The data collected during the dives and ROV surveys have complemented laboratory examinations and contributed to the comprehensive understanding of the studies species and habitats.



Monitoring the nursery area of the ocellate torpedo (*Torpedo torpedo*) in Zvernec, photos by A. Gajić (top). Endangered and rare deep-sea little gulper shark (*Centrophorus uyato*) caught by bottom longlines and discarded, photo by A. Gajić (bottom, left). It's always playful during underwater monitoring; Andrej with an octopus, photo by E. Karalić (bottom, right).

In the pursuit of scientific inquiry, our sampling strategy adheres to strict ethical principles and prioritizes the well-being of all marine life. Thus, only individuals that were already deceased upon retrieval and proved unrecoverable through our rescue and rehabilitation efforts were selected for further laboratory research. **It is essential to underscore that no individuals were intentionally killed or harmed for the sole purpose of our research**. Our commitment to ethical practices in sampling aligns with the paramount goal of contributing to the understanding and conservation of marine species while minimizing any potential adverse impact on their populations. The decision to focus on deceased individuals stems from a responsible approach that maximizes the scientific value of specimens without compromising the principles of animal welfare. By exclusively selecting individuals that had succumbed to external factors or by-catch, we aim to extract valuable insights into the health, diseases, and threats faced by these marine species.

Throughout the course of the project, this extensive sampling effort encompassed individuals from 27 species, and examinations were conducted on a total of 7119 individuals.

Critically endangered adult blue shark (*Prionace glauca*) stranded in Orikum, Vlorë, Albania (top left). A juvenile common thresher shark (*Alopias vulpinus*), retrieved lifeless by longlines, prompted a call to Sharklab ADRIA (top right). Deep-sea sharks and batoids, including *Centrophorus uyato, Etmopterus spinax, Dipturus oxyrinchus,* and *Galeus melasto*mus, were captured using longlines (bottom left) and trawl (bottom right). Photo credits: A. Gajić, E. Karalić / Sharklab ADRIA.




Engaged in extensive monitoring, I have spent up to four days onboard deep-sea trawlers, immersing myself in the dynamic environment of marine research. This hands-on experience has afforded me invaluable insights into the challenges and intricacies of deep-sea ecosystems. Through continuous observation and data collection during these extended field sessions, I've contributed to a comprehensive understanding of marine life and habitats, enhancing our knowledge of these vital and often elusive ecosystems.

Capturing the essence of marine exploration, this photo encapsulates a collaborative research diving expedition at the Karaburun Peninsula led by Sharklab ADRIA. Enriching the experience are interns from the esteemed IMBRSea Erasmus+ program, contributing diverse perspectives to our underwater investigations. In partnership with PPNEA, this initiative represents a harmonious blend of expertise and knowledge-sharing, fostering a dynamic environment for the exploration and understanding of marine ecosystems.

Appearing in the photo from left to right: Kostandin Xhaho, Emir Gjyzeli, Sabina Cano, Andrej Gajić, Emilie De Loose, Lucie Arliaud, and Klervi Croisier.

RESEARCH & SPECIES DISCOVERY

The comprehensive survey revealed a total of **27 elasmobranch species** within the designated study area, comprising 14 sharks (Tab. 1) and 13 skates and rays (Tab. 2), while a total of **7.119 indivdulas** were examined during the project. These specimens were captured either intentionally as part of the target catch or incidentally as by-catch through the use of sbottom trawls, longlines, and gill nets. Live individuals underwent thorough examination, revival, and subsequent release, adhering to the methodology by Gajić et al. (2022). Deceased specimens were set aside for meticulous post-mortem analyses. The quantification of species is categorized as follows: A (1-5 individuals), B (5-10 individuals), C (10-50 individuals), D (50-100 individuals), E (more than 100 individuals).

Tab. 1: Overview of the recorded shark species during the study, with basic informatoin and IUCN status

N	Species name and authority	Count	Depht	Fishing gear	IUCN	
					Global	Med.
14	*Heptranchias perlo* (Bonnaterre, 1788)	A	450 – 550	trawl	NT	DD
13	*Hexanchus griseus* (Bonnaterre, 1788)	B	80 – 450	trawl and longlines	NT	NT
12	*Oxynotus centrina* (Linnaeus, 1758)	B	350 – 450	trawl	EN	CR
11	*Centrophorus uyato* (Rafinesque, 1810)	C	400 – 450	longlines	EN	CR
10	*Etmopterus spinax* (Linnaeus, 1758)	A	400 - 450	trawl	VU	LC
9	*Squalus blainville* (Risso, 1827)	B	150 - 300	trawl and longlines	DD	DD
8	*Mustelus punctulatus* Risso, 1827	C	50 – 150	trawl and longlines	VU	VU
7	*Scyliorhinus canicula* (Linnaeus, 1758)	E	50 – 450	trawl and longlines	LC	LC
6	*Galeus melastomus* Rafinesque, 1810	E	350 – 450	trawl and longlines	LC	LC
5	*Carcharhinus plumbeus* (Nardo, 1827)	B	30 – 200	trawl and gill nets	EN	EN
4	*Prionace glauca* (Linnaeus, 1758)	C	50 – 300	longlines	NT	CR
3	*Isurus oxyrinchus* Rafinesque, 1810	A	150 – 300	longlines	EN	CR
2	*Alopias vulpinus* (Bonnaterre, 1788)	B	50 – 150	longlines and gill nets	VU	EN
1	*Alopias superciliosus* Lowe, 1841	B	50 – 150	longlines	VU	EN

Of notable significance, our field research and fishery monitoring efforts successfully documented several species, some of which rank among the rarest in the region. Noteworthy mentions include *H. perlo (Fig. 1), C. uyato (Fig. 2), O. centrina (Fig. 3), C. plumbeus (Fig. 4), I. oxyrinchus, A. superciliosus*, and few others. Many of these species lack substantial data across the entire Adriatic Sea, with existing knowledge predominantly relying on limited anecdotal reports. Our findings contribute valuable insights, shedding light on the presence and distribution of these rare species in the region.

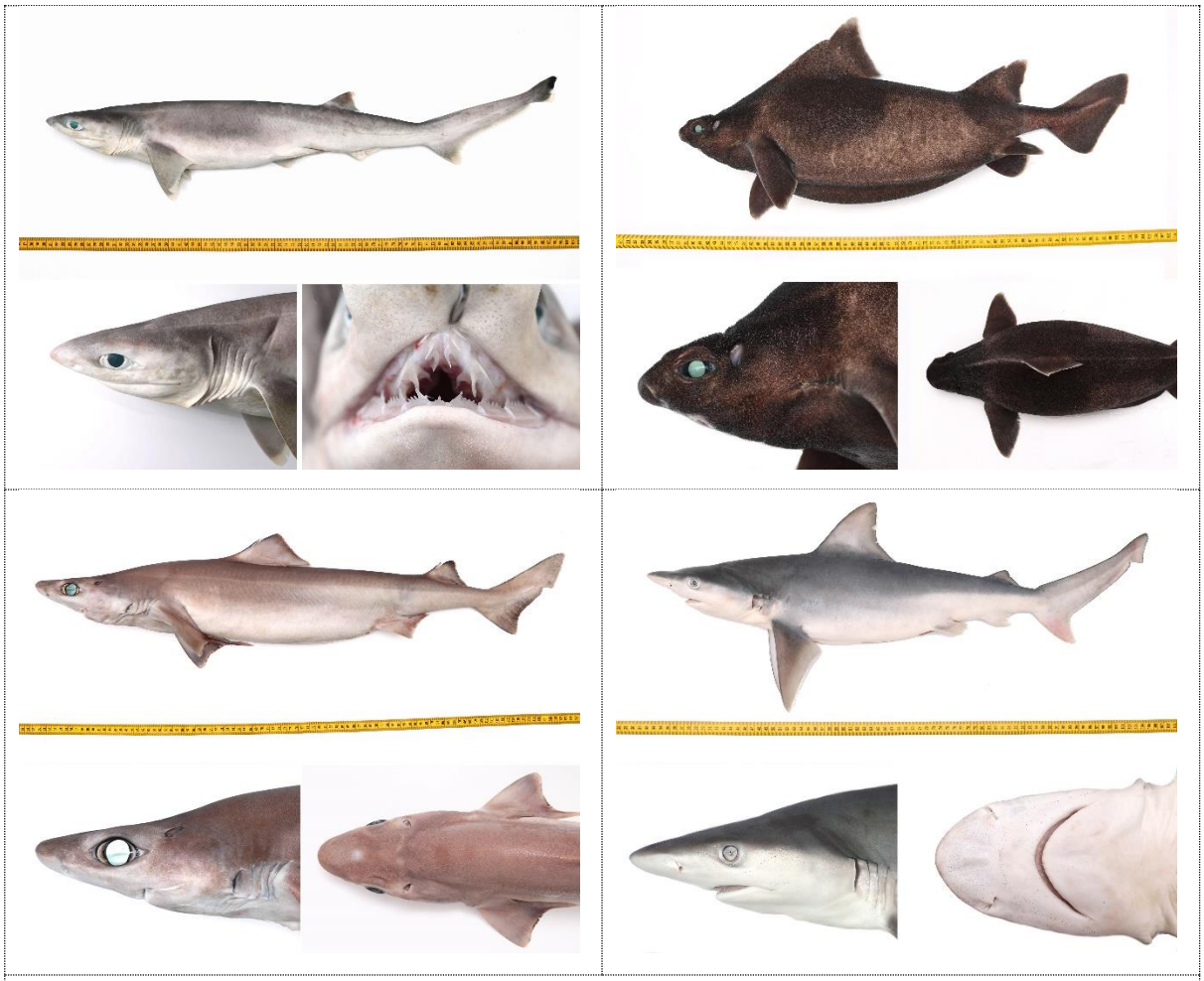


Fig. 1-4: Photos of several rare shark species encountered during the project: *Heptranchas perlo* (1, top left), *Oxynotus centrina* (2, top right), *Centrophorus uyato* (3, bottom left) and *Carcharhinus plumbues* (4, bottom right). Photos are copyright protected by Andrej A. Gajić / Sharklab ADRIA

The conducted research encompassed a comprehensive investigation, including detailed **health examinations**, the application of **immunological biomarkers**, and the **assessment of post-capture survival**, particularly focusing on **potential trauma and injuries resulting from trawling**. These studies were undertaken for the very first time for deep-sea species, with a primary emphasis on the rare and data-deficient *H. perlo.* The health examination involved macroscopic pathomorphology during autopsies following Crow (2004), followed by detailed histopathological examinations following Groff (2004). Melanomacrophages were utilized as histological indicators of immune functions (Steinel & Bolnick, 2017; Carreras-Colom et al., 2022), following Borucinska et al. (2003) and Gajić et al. (2020). A groundbreaking aspect of this research was the first-time application of Magnetic Resonance Imaging (MRI) for a precise anatomical examination, allowing for a thorough evaluation of overall health and post-capture conditions in the studied individuals (Lauridsen et al., 2011; Ziegler et al., 2011; Kim et al., 2021). The sharks were imaged using a 1.5 Tesla scanner (Philips Electronics) equipped with a comprehensive suite of pulse sequences, including STIR (Short Tau Inversion Recovery), T1-weighted, and T2-weighted spin-echo sequences, as well as fat-saturation 1.5 for STIR imaging.

Tab. 2: Overview of the recorded batoid species during the study with basic informatoin and IUCN status

N	Species name and authority	Count	Depht	Fishing gear	IUCN	
					Global	Med.
13	*Gymnura altavela* (Linnaeus, 1758)	B	25 – 50	trawl	EN	CR
12	*Aetomylaeus bovinus* (St.-Hilaire, 1817)	C	25 – 120	trawl and longlines	CR	CR
11	*Dasyatis pastinaca* (Linnaeus, 1758)	A	120	trawl	VU	VU
10	*Myliobatis aquila* (Linnaeus, 1758)	A	120 – 150	trawl and longlines	CR	VU
9	*Mobula mobular* (Bonnaterre, 1788)	A	2	observation	EN	EN
8	*Torpedo torpedo* (Linnaeus, 1758)	E	1 – 30	trawl and gill nets	VU	LC
7	*Torpedo marmorata* Risso, 1810	E	12 – 120	trawl and gill nets	VU	LC
6	*Tetronarce nobiliana* (Bonaparte, 1835)	A	400 – 450	trawl	LC	DD
5	*Raja miraletus* Linnaeus, 1758	E	50 – 350	trawl, longlines, gill n.	LC	LC
4	*Raja asterias* Delaroche, 1809	E	10 – 150	trawl, longlines, gill n.	NT	NT
3	*Raja clavata* Linnaeus, 1758	B	250 – 450	trawl, longlines	NT	NT
2	*Dipturus oxyrinchus* (Linnaeus, 1758)	C	350 – 450	trawl and longlines	NT	NT
1	*Leucoraja circularis* (Couch, 1838)	C	350 – 450	trawl and longlines	EN	CR

Throughout the project, we successfully uncovered important batoid species (Fig. 5-10) including some of the rarest species in the region, such as *G. altavela* (Fig. 5), *A. bovinus* (Fig. 6), *T. nobiliana* (Fig. 7), and *L. circularis* (Fig. 8). The discovery of *G. altavela* in the Adriatic Sea in this century was first reported through a previous Rufford-funded project (Gajić et al., 2023). Subsequent studies conducted under the Completion grant identified several more individuals in Vlore County. Moreover, our research challenges previous assumptions, revealing that critically endangered species, once thought to be encountered only every few years or even a decade, are more common than previously believed. These groundbreaking results are currently being disseminated through multiple scientific articles, showcasing international collaboration between our research center and partner universities in the United States, Bosni and Herzegovna, Crotia and Italy.

All batoid species found deceased upon retrieval underwent comprehensive laboratory examinations, following established protocols for sharks, as previously described, excluding MRI imaging. It is noteworthy that we are planning to incorporate MRI imaging for skates and rays in the coming year. During the laboratory research, special attention was dedicated to less-known and critically endangered species such as *G. altavela, A. bovinus,* and *L. circularis*. A significant number of parasitic lesions occurring in the cardiac stomach, pylorus, and ileum were documented in *A. bovinus*, with 9 out of 10 examined individuals exhibiting these lesions. These findings are currently being disseminated through original research articles.

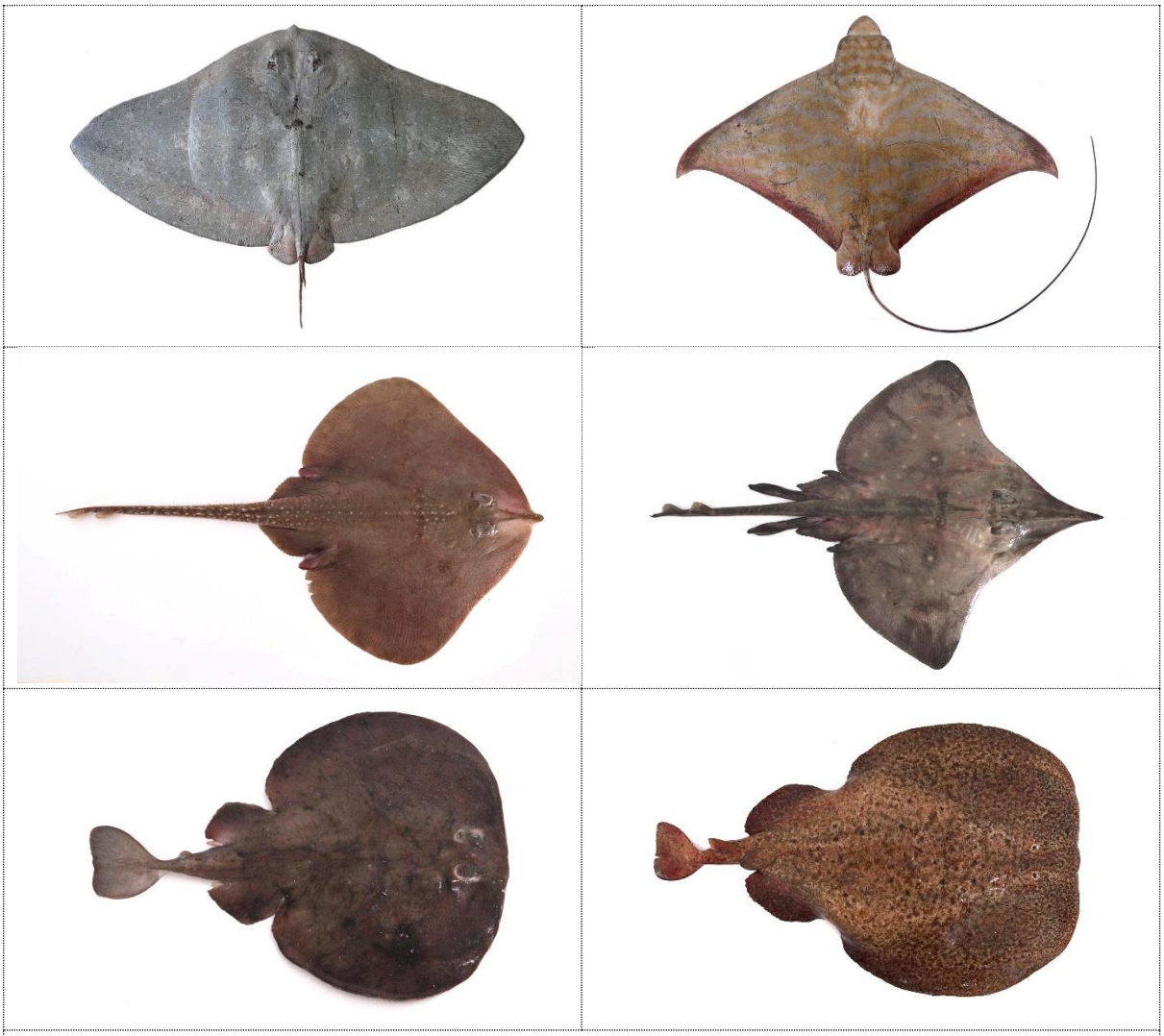
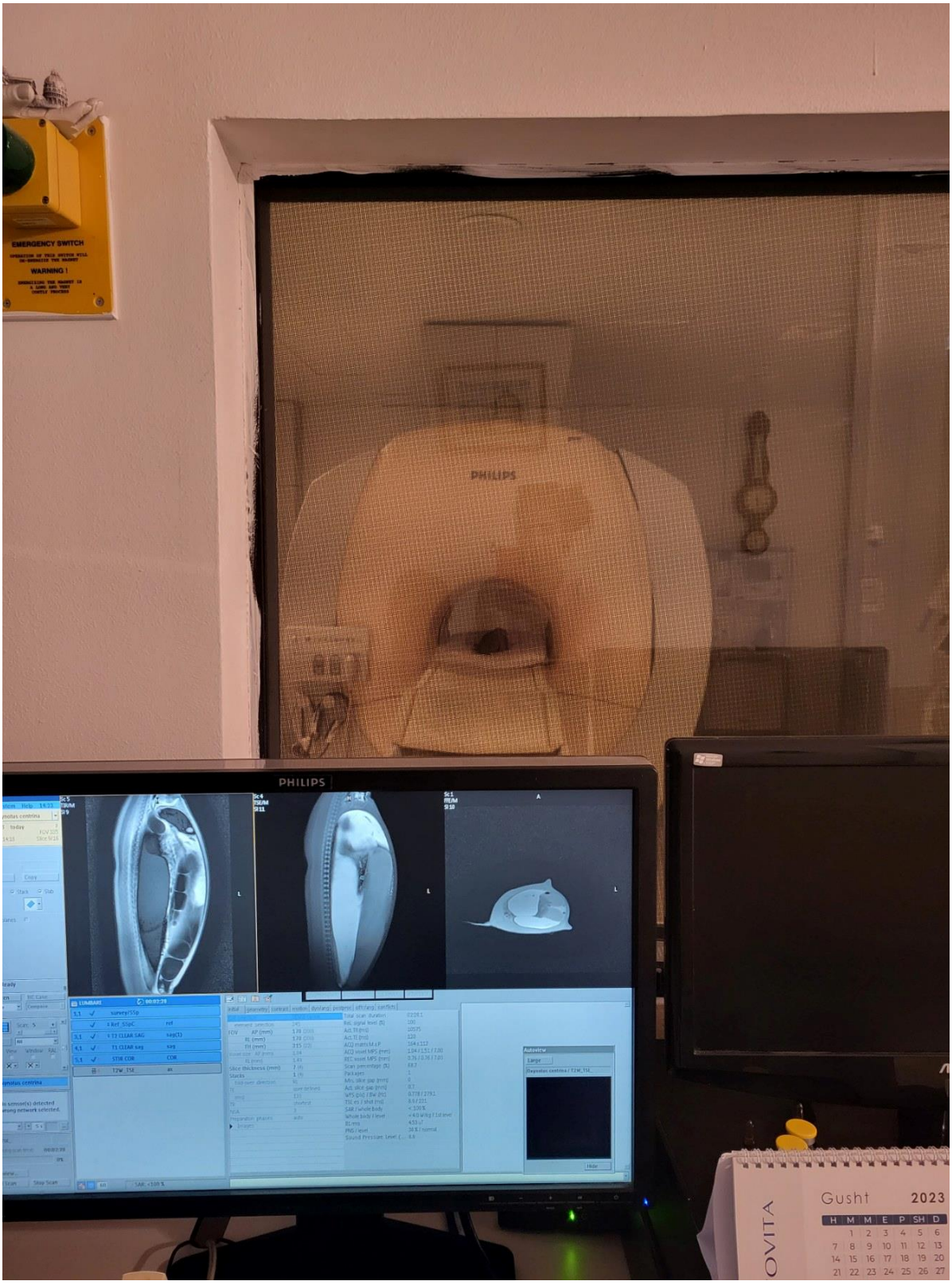


Figure 5-10: Photos of several batoid species encountered during the project, including the rarest such as *Gymnura altavela* (5, top left), *Aetomylaeus bovinus* (6, top right), *Leucoraja circularis* (7, middle left) and other such as *Dipturus oxyrinchus* (8, middle right), *Tetronarce nobiliana* (9, down left) and abundant *Torpedo marmorata* (10, down right). Photos are copyright protected to: Andrej A. Gajić / Sharklab ADRIA.

Original scientific papers

Zhe obtained results are currently being documented in significant number of original scientific papers, two of which have already been published in prestigious journals such as the Journal of Fish Biology (Wiley) and Marine Biodiversity (Springer Nature). In addition to presenting scientific data, the papers provide a clear reflection on the effective in-situ conservation.
Collaborating with colleagues from partner universities in the United States, Bosnia and Herzegovina, Croatia, and Italy, we are currently in the process of finalizing the remaining works.

For additonal info feel free contact us: agajic@sharklab-adria.org or visit http://www.sharklab-adria.org

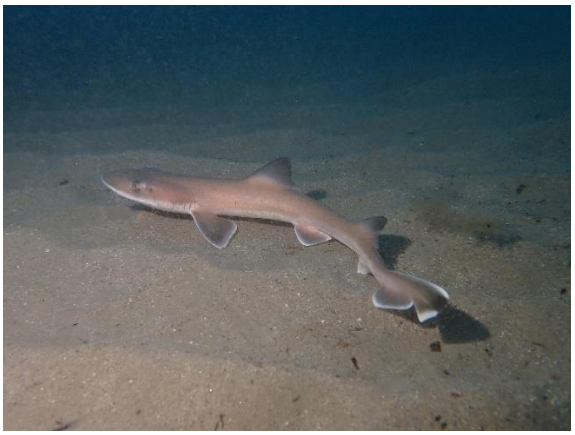


The first MRI examination of an adult deep-sea, critically endangered, rough shark*, Oxynotus centrina* (Linnaeus, 1758), photo: A. Gajić / Sharklab ADRIA.

RESCUE, REHABILITATON AND RE-INTRODUCTION

Throughout the project, a total of 27 elasmobranch species were identified, including 14 species of sharks and 13 species of batoids. A comprehensive examination involved 7,119 individuals over the course of one year of fieldwork and monitoring. Live individuals received meticulous examination, and efforts were made to rescue, rehabilitate, and release them whenever feasible. A noteworthy aspect of the project involved a total of 10 out of the 27 encountered species undergoing the rescue, rehabilitation, and re-introduction program. Additionally, four species were temporarily housed in aquariums for multi-day rehabilitation and monitoring. Late-stage fetuses of deceased females were in-vitro incubated and released, as showcased in the Spiny Butterfly Ray and Smooth-hound shark videos. Furthermore, eggcases of oviparous species were placed into tanks for controlled hatching.

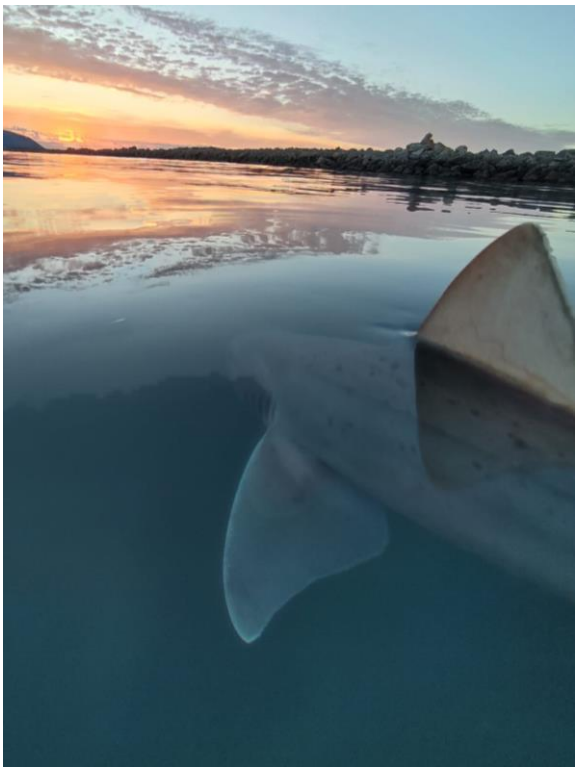
Late-stage fetuses of the vulnerable black-spotted smooth-hound shark (*Mustelus punctulatus*) were carefully placed in a tank within Sharklab ADRA after surgical removal from a deceased female. The accompanying photo captures the moment before the initial treatment, showcasing the clear visibility of the remaining umbilicus, which was subsequently addressed and fixed during the proces.



Releasing individuals after completing the in-vitro incubation at a potential nursery area in Vlore Bay. On the left, our graduate student Emilie De Loose, conducting her thesis on smoothhounds, is captured during the release. On the right, an individual in its natural habitat. All photos are copyright protected to A. Gajić / Sharklab ADRIA.

Andrej Gajić while releasing a gravid marbled electric ray (*Torpedo marmorata*) upon successful rehabilitation following capture in a bottom trawl. Photos by M. Prelević

Andrej Gajić while releasing a gravid black-spotted smooth-hound shrak (*Mustelus punctulatus*) upon successful rehabilitation following capture in a bottom trawl. The release was participated by local fisherman which are thought oh how to properly handle and release sharks. Photos by M. Prelević.

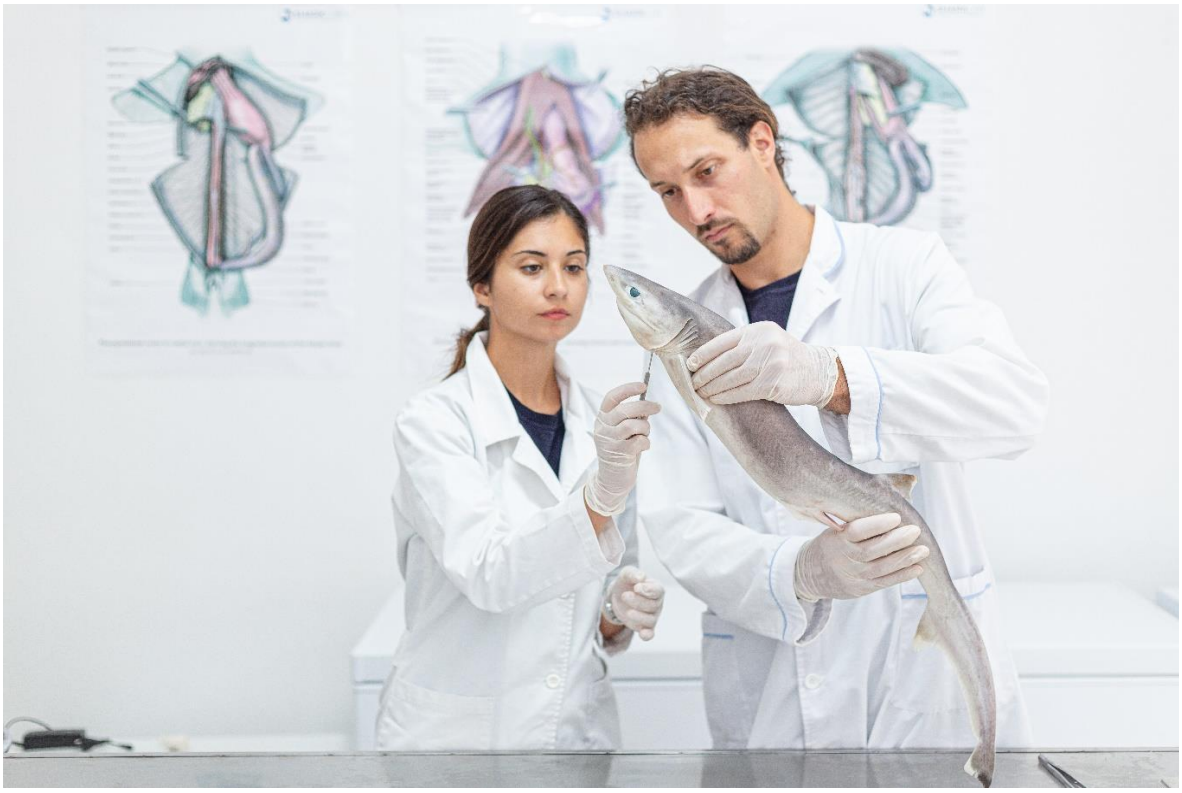


Vulnerable black-spotted smoothhounds (*Mustelus punctulatus*) caught by bottom trawlers and landed alive in Triport Harbour. Numerous individuals, particularly females in the early stages of gravidity, were revived following Gajić et al. (2022). These individuals were rehabilitated, carefully monitored, and successfully released into the sea. We are currently working on understanding the long-term survival rate of these individuals, which preliminarily seems to be more than 70%. Photos: A. Gajić / Sharklab ADRIA.

Featured Species

Examination of the rare and critically endangered deep-sea rough shark (*Oxynotus centrina*). Five individuals were recorded by bottom trawl during the study at depths ranging from 150 to 450 meters. The deep-sea research is co-funded by the Explorers Club Discovery Channel expedition 'What Lurks in the Depths?!' Photo by E. Karalić, Copyright: Discovery Channel.

Health assessments of lesser-known and exceptionally rare little gulper sharks (*Centrophorus uyato*) captured at depths of 450 meters. This research on gulper sharks is a component of the Explorers Club Discovery Channel expedition 'What Lurks in the Depths?!'. Photographs captured by our guest photographer M. Prelević.



Analysis of an immature sharpnose sevengill shark (*Heptranchias perlo*) captured at the upper slope off Sazan Island. This research is integral to the scientific expedition 'What Lurks in the Depths?!' funded by the Explorers Club Discovery Channel. All recorded H. perlo individuals underwent comprehensive pathological and immunological examinations. Photograph by M. Prelević.

Emina Karalić captures Andrej Gajić at work with a juvenile bluntnose sixgill shark (*Hexanchus griseus*) during the expedition 'What Lurks in the Depths?!', funded by the Explorers Club and Discovery Channel. The sixgill shark is a large and frequently encountered deep-sea species in the southern Adriatic Sea. Photograph by non-staff photographer: M. Prelević.

Emina Karalić and Andrej Gajić meticulously examine an adult gravid Spiny Butterfly Ray (*Gymnura altavela*), a central focus in our ongoing studies. The research on this species is generously co-funded by the Mohammed bin Zayed Conservation Fund through a dedicated project for Emina Karalić. Photograph by Andrej Gajić / Sharklab ADRIA.

Andrej Gajić, Principal Investigator, and Emina Karalić, Chief Technical Assistant at Sharklab ADRIA, conducting an examination of a thresher shark (*Alopias vulpinus*) captured by longlines approximately 3 NM off Grama Bay, Karaburun Peninsula. Although this species is frequently landed in Vlore, adults had not been observed during the course of our study. Photo by M. Prelević.

The blue shark (*Prionace glauca*) is the most prevalent pelagic species in the southern Adriatic Sea, with neonates, juveniles, and adults reported throughout the year. This species is important for our comprehensive research programs. The photo depicts one of the juveniles (PGA-04/23) before undergoing autopsy. The individual was retrieved dead from the longlines. Photo by E. Karalić.

Blackmouth catshark (*Galeus melastomus*) and small-spotted catshark (*Scyliorhinus canicula*) captured in a single haul at the upper slope off Sazan Island. The total transect length covered 12 nautical miles, with the net deployed at 4 PM and retrieved at 11 PM, resulting in a total tow time of 7 hours. The photo illustrates the typical catch rate of both species in a single tow. Photo by E. Karalić.