

27<sup>th</sup> Rufford Small Grants Conference

## **FROM MOUNTAINS TO DEEP SEAS: Research & Conservation Beyond Boundaries**

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### **Assessment of Degree of Exploration and Conservation Strategy of the Protection of Sharks, Skates and Rays in the Neum Bay Andrej A. Gajić**

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With the maximum depth of 30 meters, Neum Bay is characterized by sandy and muddy bottoms with homogenous habitats. The current project activities within the Rufford Small Grants Project, as well as the analysis of the available literature, identified a total seven species of selachians and five species of batoids within the classes Elasmobranchii Bonaparte, 1838 that inhabits Neum bay. Besides, according to the available literature, ten more species of elasmobranchs are considered as possible or expected in the studied area, due to their preferred habitats, feeding ecology and reproductive biology. In addition, through our project we have identified spawning sites for marbled electric ray, *Torpedo marmorata* Risso, 1810 and *Myliobatis aquila* (Linnaeus, 1758), while there are signs of nursery of *Raja miraletus* Linnaeus, 1758 and shark species *Mustelus mustelus* (Linnaeus, 1758) and *Mustelus asterias* Cloquet, 1821. Laboratory studies (on by-catch samples) included macroscopic patomorphology, histopathology, immunohistochemistry and radiology (RTG/CT) in order to diagnose specific diseases. Different tissue stainings, such as hematoxylin-eosin (HE), Sudan III and Periodic Acid-Schiff (PAS) were used. Observed pathological changes directly points to the sensitivity of the studied elasmobranchs to different pressures in the eastern Adriatic sea. It is worth to mention presents the very first precise histopathological studies of elasmobranch in the Adriatic sea. Such study present a necessary proof for further legal protection, revitalization and long-term in-situ conservation of study taxa. The strategy for the legal protection of the elasmobranchs in the Neum bay is currently under construction in the cooperation with the competent state ministries and the municipality of Neum.

**Key words:** sharks, pathology, conservation, Adriatic, marine