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Abdel Fattah N Abd RabouDepartments of Biology and
Marine Sciences, Islamic
University of Gaza, Gaza Strip,
Palestine**Mohammed A Abd Rabou**Department of GIS, University
College of Applied Sciences, Gaza
Strip, Palestine**Othman A Abd Rabou**Department of Journalism and
Media, Islamic University of
Gaza, Gaza Strip, Palestine

On the arrival of the rare and endangered Mediterranean Monk Seal - Yulia (*Monachus monachus* Hermann, 1779) on the shores of Jaffa, Palestine (May 2023)

**Abdel Fattah N Abd Rabou, Mohammed A Abd Rabou and Othman A
Abd Rabou**

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Abstract

The Mediterranean Monk Seal (*Monachus monachus* Hermann, 1779) is one of the rarest and endangered species in the world. The aim of the current study is to shed light on the arrival and stay for several days of a female specimen of the Mediterranean Monk Seal on the shores of Jaffa, Palestine. The current study relied on the follow-up of many Palestinian and Israeli news websites and social networking sites that dealt with this rare event. Once the Mediterranean Monk Seal arrived, she was given the name "Yulia" by a Jaffa boy who was the first to see her. It was reported that the 20-year-old and 6-foot-tall Yulia was spotted in Turkey in 2007, at which time she was going by the name "Tugra". Yulia was seen basking in the sun on Jaffa beach and wallowing repeatedly into the sand, visibly unfazed by the huge successive crowd that came from all over the country to see and monitor her. The seal's rapid return to the water several times as she sailed indicated that she was in good physical condition. The news received indicated that Yulia had come ashore to shed, which meant that her old skin with its fur should be shed and replaced with a new one. Yulia became a hot topic for journalists, environmentalists and marine life enthusiasts. Although Yulia was protected during her beach vacation in Jaffa, the study recommends that the relevant authorities should build suitable caves along the Palestinian coast for the incoming seals to settle in.

Keywords: Mediterranean monk seal, *Monachus monachus*, Yulia, Molting, Jaffa beach, Palestinian coast, Palestine

1. Introduction

Pinnipeds, commonly known as seals, are a diverse and widely distributed group of carnivorous, fin-footed, semi-aquatic, and mostly marine mammals. Most species of Pinnipeds prefer the cooler waters of the Northern and Southern Hemispheres (Castro, and Huber, 2007)^[18]. They spend most of their lives in the water but come ashore to mate, give birth, moult, or escape predators, such as sharks and Killer Whales (Orcas). Pinnipeds are predators, feeding mostly on fish and squids. Their streamlined bodies are adapted for swimming (Castro, and Huber, 2007)^[18]. Among the Pinnipeds, the Mediterranean Monk Seal (*Monachus monachus* Hermann, 1779) is one of the rarest species in the world. Today, the species is one of the world's most critically endangered mammals. It is the only resident pinniped species in the Mediterranean Sea. It was estimated that 700 or fewer isolated individuals live in three or four sub-populations in the Mediterranean (Karamanlidis *et al.*, 2016 and Bundone *et al.*, 2019)^[36, 16]. It is a marine mammal that reproduces only about one offspring every two or three years. There seem to be few reports of very limited numbers of the Mediterranean Monk Seal in the Mediterranean waters and coasts of historic Palestine (Scheinin *et al.*, 2011)^[53]. Bundone *et al.* (2016)^[15] pointed out that of an unidentified Monk Seal carcass of about 133 cm long found on a beach near Tel Aviv in 2004. There have been reports of dozens of individual sightings of Monk Seals along Israel's entire Mediterranean coast (Scheinin *et al.*, 2011; Bundone *et al.*, 2016 and Roditi-Elasar *et al.*, 2021)^[15, 53].

Despite the existence, occurrence, or recording of the Mediterranean seal in some Mediterranean countries, its occurrence or registration in the marine waters of the Gaza Strip is

Corresponding Author:**Abdel Fattah N Abd Rabou**Departments of Biology and
Marine Sciences, Islamic
University of Gaza, Gaza Strip,
Palestine

questionable, and this is what appeared in the report of the Ministry of Environmental Affairs in 2001 on the action plan for the protection and management of the coastal and marine environment in the Gaza Strip and other studies (Ministry of Environmental Affairs–MEnA, 2001; Abd Rabou *et al.*, 2007 and Abd Rabou, 2013) [1, 2]. On the other hand, many studies have shown the occurrence or stranding of different species of baleen and toothed whales as marine mammals in the Mediterranean waters of historic Palestine, including the Gaza Strip (Goffman *et al.*, 2000; Kerem *et al.*, 2012; Abd Rabou *et al.*, 2021 and 2023; Galili *et al.*, 2023) [28, 3-4, 38, 27]. Several reports and studies indicated the occurrence or registration of individuals or colonies of the Mediterranean Monk Seals to the north of Palestine in Lebanon, Cyprus, Greece, Turkey and even Italy (Androukaki *et al.*, 1999; Adamantopoulou *et al.*, 1999, 2000, and 2011; Dendrinou & Demetropoulos, 2000; Güçlüsoy *et al.*, 2004; Dendrinou *et al.*, 2008; Gücü *et al.*, 2009; IUCN, 2014; Saydam, 2018; Badreddine *et al.*, 2020; Zangaro *et al.*, 2020; Nicolaou *et al.*, 2021; Pietrolungo *et al.*, 2022 and Panou *et al.*, 2023) [5-7, 8, 9, 23, 31, 35, 51, 54, 45, 46]. Most of these publications investigated the ecology, biology, threats and conservation of the species in question. The current study aims to shed light on the arrival of a female specimen of Mediterranean Monk Seal and her stay for several days on the shores of Jaffa, Palestine.

2. Methodology

To document this rare event, the current study relied on following many Palestinian and Israeli news sites and social networking sites that reported the arrival of the Mediterranean Monk Seal (*Monachus monachus* Hermann, 1779) on the shores of Jaffa, Palestine. These sites are full of important information and recent photos about the seal Yulia, the subject of the study, which was tracked and used here.

3. Results

3.1 "Yulia": The local Monk Seal naming

A young boy, called Mohammed, from Jaffa, was the first to see the Mediterranean Monk Seal (*Monachus monachus* Hermann, 1779) on the Jaffa beach, south of Tel Aviv, and reported her to the appropriate environmental authorities, naming her "Yulia". This name began to make headlines in Palestinian, Israeli and other newspapers. Reports indicated that the same seal of Yulia was seen in Turkey in 2007, and was named there as "Tugra". It is scientifically known that Yulia or Tugra, as a Mediterranean Monk Seal, prefers relatively picturesque beach caves in the Greek, Turkish and other islands, and rarely goes to the sunny beaches of Palestine, Lebanon or Syria.

3.2 Description of "Yulia"

The Mediterranean Monk Seal (*Monachus monachus* Hermann, 1779) or Yulia that came to the beaches of Jaffa (Figure 1) has a slender body and a broad, flat snout with nostrils at the top. She has a rear or hind flipper that cannot be moved forward. On land, as it has been observed by the crowds, Yulia moves by pulling herself up with her front flippers, while in marine waters, Yulia swims with strong strokes of her back flipper. The apparent coloration of this female specimen is mostly grey, with an impure brown tint to the anterior parts of the animal as an indication of molting as indicated by some specialists. Yulia is an adult female whose age was estimated by local and foreign specialists to be about

20 years. According to what was reported by some media outlets, the length of Yulia was approximately six feet, which is equivalent to more than 180 centimeters. This unexpected visitor was spotted sunbathing on the beach of Jaffa. She was also seen repeatedly wallowing in the sands of the beach without showing obvious disturbance from the huge and successive crowd that came to see her. During her short days on Jaffa beach, Yulia used to enter the sea and then return to the shore several times to rest on the beach. Sometimes Yulia took short naps in her resting places on the beach. The seal's rapid return to the water several times during her beaching indicated that she was in good physical condition.



Fig 1: Yulia—An endangered Mediterranean Monk Seal (*Monachus monachus* Hermann, 1779) resting on Jaffa seashore, Palestine in May 2023 [Photos: Aviad Scheinin and Ariel Schalit]

3.3. Yulia: A rare event achieving celebrity status

Once on the shores of Jaffa, the Mediterranean Monk Seal (*Monachus monachus* Hermann, 1779) achieved celebrity status before spending several days lounging on the beach of Jaffa beach, attracting tens of thousands of onlookers who admired the rare and globally endangered creature. In fact, this is a very rare event that a Mediterranean Monk Seal stays for such a long time on the shores of Palestine. Because of this event, the responsible authorities in Jaffa erected iron barriers around Yulia to prevent the public and amateurs of wild and marine life, who came from different parts of the country, from accessing her and causing her inconvenience. This event, of course, may not be repeated in the coming days and years. During her stay on the Jaffa beach, Yulia has become a vital topic for journalists, environmentalists, and those interested in marine and wild life. Some of the onlookers who saw Yulia on Jaffa beach lauded seeing the marine mammals for the first time as a "much more exciting" experience than they had expected, partly due to the seal's size of about 6 feet and the effect Yulia had on onlookers. After a stay of five days on the beach of the city of Jaffa, visitors and those interested in marine life were met with an empty Jaffa beach from Yulia, as it disappeared into the sea and did not return again.

3.4. Molting of Yulia

To keep their fur healthy, seals have been known to undergo a molting process once a year, in which they shed the top layer of their skin and fur. In addition to basking, the Yulia of Jaffa beach has been found coming ashore to molt (Figure 2). Here, Yulia focused on molting, and her skin color gradually changed from brown to gray. In this "catastrophic molting", Yulia sheds all of its fur along with the underlying layer of skin. In fact, molting is a multi-day process of shedding winter coat of Yulia.



Fig 2: The changes in Yulia's skin on the beaches of Jaffa, Palestine indicate that she is in a state of molting (a multi-day process of shedding her winter coat) [Photo: Ariel Schalit]

4. Discussion

Yulia is a Mediterranean Monk Seal, one of 600-700 individuals in existence in the Mediterranean Sea, Aegean Sea, and northeastern Atlantic Ocean (Gücü *et al.*, 2004; González, 2015 and Karamanlidis *et al.*, 2016) [30, 29, 36], although other estimates put the number lower. The IUCN classifies the species as endangered (Castro, and Huber, 2007) [18], which has given this animal special attention locally, regionally and globally. The population of Mediterranean Monk Seal has dwindled due to historic seal hunting, overfishing, deliberate killing, entanglement in fishing gear and habitat destruction (Androukaki *et al.*, 1999; Güçlüsoy *et al.*, 2004 and Karamanlidis *et al.*, 2016) [9, 36, 33]. For more clarification, reports indicated that in the late nineteenth century, the population of the Mediterranean Sea seal was in the thousands, but it dwindled to a few hundred during the twentieth century after poachers killed many of them, and human activity damaged the seal's habitat (Karamanlidis *et al.*, 2016) [36]. Over the past two decades, conservation teams, particularly in Greece and Turkey, have expanded coastal nature reserves, helping to increase seal numbers (Kurt and Gücü, 2021 and Saydam *et al.*, 2023) [39, 52]. Rarely seen on the shores of Palestine, the dwindling Mediterranean Monk Seal population is thought to live only in a few places in the Mediterranean. According to Güçlüsoy and Savaş (2003) [32] and Kurt and Gücü (2021) [39], Turkey appears to be one of the species' last strongholds across its distribution range. Numerous studies have shown that the Mediterranean Monk Seal usually inhabits the coastal caves in the Greek and Turkish islands (Güçlüsoy *et al.*, 2004; Dendrinis *et al.*, 2008; Pires *et al.*, 2008; Inanmaz *et al.*, 2014 and Pietroluongo *et al.*, 2022) [33, 23, 47, 34, 46], and for this reason, it rarely goes to the sunny beaches in Palestine, Lebanon, or Syria (Mo *et al.*, 2003; Scheinin *et al.*, 2011; Bundone *et al.*, 2016; Badreddine *et al.*, 2022 and Saad & Mahfoud, 2022) [15, 53, 50]. In North

Africa, there have been few records of Mediterranean Monk Seals off the coasts of Egypt (Notarbartolo di Sciara & Fouad, 2012 and Farrag *et al.*, 2019), Libya (Alfaghi *et al.*, 2013) [8], Tunisia (Ouerghi *et al.*, 2001), and western Sahara (Forcada *et al.*, 1999) [43, 24, 48], etc.

Specialists said that perhaps one of the goals of Yulia's presence on the shores of Jaffa is the completion of the molting process that usually occurs in seals (Danan 2023a and b) [19-20]. The importance of such molting is to protect the skin of seals from mechanical damage from fighting and ultraviolet radiation. However, the hair must be kept short to allow the seals to swim quickly in the marine waters. In order to maintain these properties, the old skin must be periodically discarded and replaced with a new one, and this is practically the definition of molting (Badosa *et al.*, 2006) [10]. The reason it is so strange that Yulia decides to sunbathe on an open beach in Jaffa for example is because these creatures usually live in beach caves where they are in Turkey, Greece, Cyprus, Italy, etc. (Karamanlidis *et al.*, 2004 and 2016 and Fioravanti *et al.*, 2020) [36, 37, 25]. Due to the rare arrival of the Mediterranean Monk Seal to the coasts of Palestine and the Levant (Bertram, 1943; Scheinin *et al.*, 2011; Bundone *et al.*, 2016; Badreddine *et al.*, 2020 and Roditi-Elasar *et al.*, 2021) [15, 12, 53, 11], it appears that the seasonality of molting has not been pursued or studied despite the state of molting in which Yulia appeared on Jaffa beach. In Greece and Turkey, molting in this species occurs in a relatively long season, as evidenced by specialized studies (Yediler *et al.* 1993 and Güçlüsoy & Savas 2003) [32].

As soon as people and the media heard the news of the arrival of the rare and globally endangered Mediterranean Monk Seal (Yulia) on the shores of Jaffa, tens of thousands of people from all over the country, whether Muslims, Christians or Jews flocked to the city of Jaffa, hoping to see and photograph this rare and exciting event. They know very well that such an event may never happen again because the Mediterranean Monk Seal does not come ashore in Palestine every day. This may explain the haste of the responsible and competent authorities in Jaffa in erecting iron barriers around Yulia to prevent the public and sometimes the amateurs of wild and marine life from reaching Yulia or harming or disturbing her. Indeed, For example, after Yulia landed on Jaffa beach, the Israel Nature and Parks Authority (INPA) sent volunteers to monitor the targeted seal and to ensure that the crowds of people that had gathered since her arrival did not disturb her. Yulia achieved celebrity status before spending several days lounging on the beach of Jaffa, attracting tens of thousands of onlookers who admired the rare and globally endangered creature. During its fortunate stay on Jaffa beach, Yulia became a hot topic for journalists, environmentalists, and those interested in marine biota and wildlife. Concluding her journey, it can be said that Yulia was properly sheltered during her beach vacation in Jaffa, Palestine, although some Jaffa residents admitted that Jaffa beach—with its crowds, dogs, and loads of rubbish—wasn't the best place to embrace a guest seal. It is worth mentioning that Jaffa is an old Palestinian city that has a diverse population of Muslims, Christians and Jews. The shores of historic Palestine lack the resources to give Yulia and her fellow Mediterranean Monk Seals the protection they need. To achieve this, these rare and globally endangered creatures require the competent authorities to build suitable caves along the coast for seals to settle in, similar to those caves that are

found on the coasts of countries located relatively far to the north of Palestine (Panou *et al.*, 1993 and 2023; Beton *et al.*, 2021 and Saydam *et al.*, 2023)^[44, 52].

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