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Preliminary findings on the use of caves by Mediterranean monk seals, Ionian Sea, Greece

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Here, we present some preliminary data on the use of caves by Mediterranean monk seals within the framework of a photo-identification project launched in May 2018 in the central Ionian Sea, Greece. The data were recorded in three of the most used caves, located in the northern and the southern parts of Kefalonia island (see Fig.1), out of fifteen monitored caves, identified as important during previous studies (1985-2002). Although data were systematically collected throughout the year, gaps in data recording occurred due to some extremely bad weather conditions, technical malfunctions of the cameras and logistic reasons.

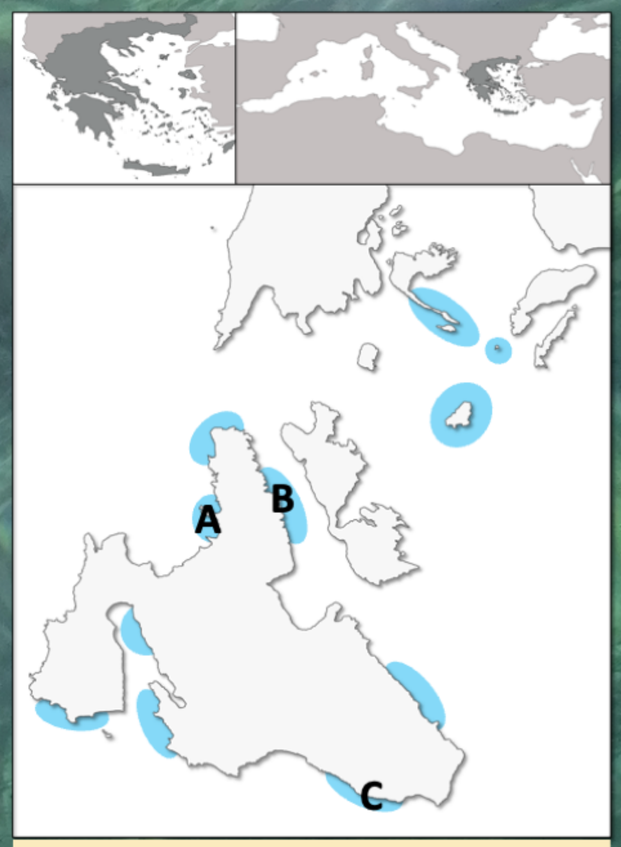

Figure 1. Map of the study area (Central Ionian, Greece). The locations of the 15 monitored caves are highlighted in blue and the 3 caves analysed here are marked with letters

CAVE A

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2018					4d; 1s	25d; 5s	28d; 6s	21d; 5s				
2019						19d; 7s	28d; 6s	17d; 7s				
2020									28d; 6s	30d; 8s	19d; 10s	17d; 9s
2021	11d; 4s	17d; 6s	11d; 6s	21d; 5s	8d; 5s	9d; 6s	29d; 8s	31d; 6s	29d; 9s	6d; 5s		
2022						3d; 4s	7d; 4s					

CAVE B

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2018												
2019			4d; 2s	8d; 1s	5d; 2s	10d; 2s	16d; 3s	14d; 2s	10d; 5s	10d; 3s	13d; 2s	11d; 3s
2020	1d; 1s	9d; 1s	4d; 2s	2d; 1s	1d; 1s	6d; 2s	22d; 2s	16d; 2s	15d; 2s	6d; 1s	8d; 1s	8d; 3s
2021	12d; 4s	7d; 1s	11d; 1s	5d; 1s	5d; 1s	1d; 1s	8d; 1s	16d; 1s	17d; 1s		1d; 1s	1d; 1s
2022							20d; 2s	9d; 1s	3d; 1s			

CAVE C

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2018							6s; 2s	22d; 4s	17d; 3s	19d; 4s	5d; 3s	
2019						9d;3s	17d; 5s	11d; 2s	2d; 1s	4d; 1s	3d; 1s	9d; 4s
2020	6d; 3s	14d; 5s	3d; 1s	9d; 4s	6d; 4s	7d; 3s	9d; 4s	10d; 3s	8d; 5s	10d; 8s	12d; 5s	9d; 4s
2021	10d; 4s	4d; 1s	7d; 2s	1d; 1s			2d; 2s	7d; 3s	8d; 2s	19d; 3s	18d; 3s	14d; 2s
2022	12d; 3s	7d; 4s					2d; 1s	3d; 1s	11d; 3s			

LEGEND First installation; Seal presence; Seal absence; Gap session; **d**: days of seal presence; **s**: max number of seals

Figure 2. Seal presence in caves A, B, C (top to bottom) over the period from the first installation of camera traps to the last evaluated monitoring session

We calculated the days with seal presence as a percentage of all days with active coverage since the first instalment of the monitoring equipment in each of the three caves, i.e. excluding the days of failed recording. The percentage of days with seal presence in the caves were 78,7%, 32% and 30,6% in 552, 1081 and 1023 days of active coverage respectively.

The maximum number of seals recorded on a single shot was 10, 8 and 5 animals respectively. Seals did haul out in all three caves and in all seasons throughout the time of monitoring but the number of animals and the individuals present varied substantially (Fig. 2, 3, and 4).

Figure 3. Monk seals presence in caves within the study area

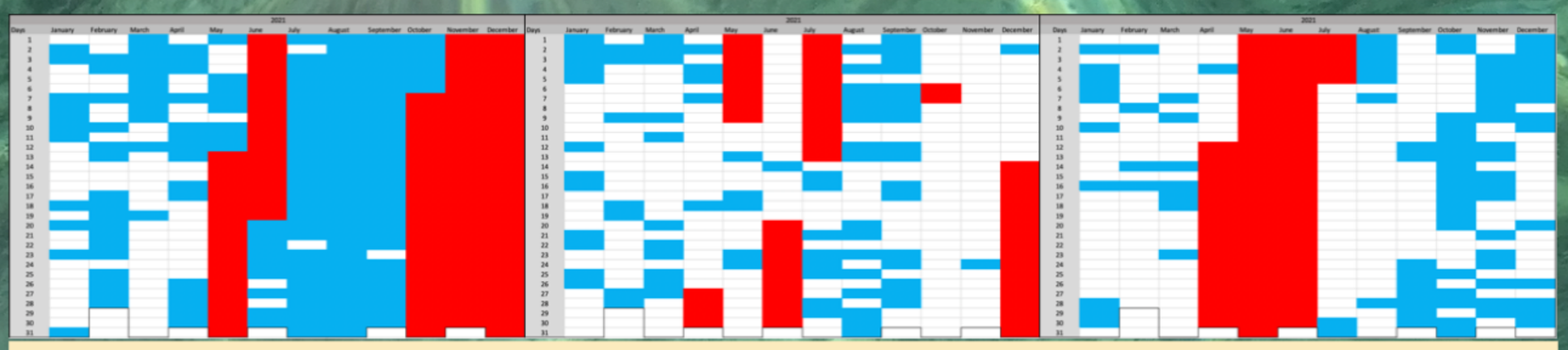

Figure 4. Daily presence of seals for the year 2021 for cave A, B, and C (from left to right respectively)

Further systematic monitoring is essential for revealing the species´ habitat preferences and their changes in time as also seal movements.

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