Biodiversity in the mediterranean wetlands

SCIENTIFIC LEAFLET

MedWet

"There are few things more inspirational than a wild river and the complex web of life that water silently supports"

Violeta Barrios - Chair of the Biodiversity-SG

Unique species and ecosystems under threat

The Mediterranean wetlands are rich and diverse ecosystems, and an important number of Ramsar Sites have been designated in the region. These cover 185,000 km2 in the Mediterranean region, which represent only between 1.7 and 2.4% of the total area of the 27 Mediterranean and peri-Mediterranean countries that are Parties to the Ramsar Convention, and around 1 to 2% of wetlands in the world.

Through its **Scientific and Technical Network (STN)** and its **Biodiversity Specialist Group (MedWet/STN/SG/Biodiversity)**, the Mediterranean Wetlands Initiative (MedWet) works with Mediterranean experts, scientists and technicians on biodiversity to identify the knowledge gaps that prevent decisions being made to help preserve wetland biodiversity in the region.

Status of biodiversity in the mediterranean

The Mediterranean region has been identified as one of the 34 world hotspots for biological diversity, supporting for example almost as many species of flowering plants as the whole of tropical Africa (22,500 species), on a land area that is however only a quarter the size. The level of endemism here is also very high.

The result is a very high level of species richness. Some 2,500 species of vertebrates have been recorded and up to 10% of the world's vascular plant species, in a land area barely 1.6% of the earth's surface!

The majority of the avian and mammalian fauna originate from outside the Mediterranean Basin, in particular from Eurasia and Africa. These species have higher dispersal abilities in contrast to the notable herpetofauna and ichtyofauna across the basin which have greater endemism. There are several ancient lineages and many endemic genera for reptiles, amphibians and freshwater fish.

In this context, Mediterranean wetlands have a disproportionate importance for biodiversity: 30% of vertebrate species found in the Mediterranean hotspot are wetland-dependent (i.e., species which require wetlands to complete their life cycle), despite the fact that wetlands only represent 2-3% of the terrestrial surface area of the hotspot (Mediterranean Wetlands Outlook 2, 2018).

Photo: Flamingos, 2015, © J. Jalbert/Tour Du Valat - branding: addb.fr

The Biodiversity Specialist Group (Biodiversity-SG)

The Biodiversity Specialist Group is one of the five Specialist Groups constituting the MedWet/STN. It is made up of 15 experts from 13 countries in a wide variety of disciplines, who contribute to different aspects related to biodiversity.

The Biodiversity Specialist Group updates and compiles new Red Lists for Mediterranean wetland taxa and collects the missing information required to identify new Key Biodiversity Areas in the region.

To know more about the MedWet/STN and its Specialist Groups :

http://bit.ly/MedWetSTN

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Group	Number of native species	Number of endemics	% Endemism	Reference
VERTEBRATES				
Marine Fishes	1,122	122	7	Abdul Malak et al. (2011); IUCN (2016)
Freshwater fishes	622	280	45	Smith et al. (2014); Smith and Darwall (2006)
Amphibians	109	54	50	Cox et al. (2006); IUCN (2016)
Reptiles	299	117	39	Cox et al. (2006); IUCN (2016)
Birds	534	63	12	Birdlife International (2016)
Mammals *	298	38	13	IUCN (2016)
INVERTEBRATES				
Butterflies *	462	98	21	Numa et al. (2016)
Dung beetles	579	150	26	Numa et al. (in prep)
Saproxylic beetles	576	338	13	IUCN (2016)
Dragonflies & damselflies	164	21	13	Riservato et al. (2009); Gobierno de Canariasas (2016); Gobierno de Azores (2016)
Freshwater crabs	16	1	6	IUCN (2016)
Anthozoans *	138	24	17	Otero et al. (in prep)
Freshwater molluscs *	629	384	61	Garcia et al. (2008); Smith et al. (2014)
VASCULAR PLANTS	25.000	12.500	50	Quezel (1985)

*Tables 1: Number of vertebrate species and level of endemism for selected species groups in the Mediterranean Basin Hotspot. Source: CEPF 2017. Mediterranean Basin Biodiversity Hotspot Ecosystem Profile. Note: * = for these groups, data from the Macaronesian islands are not included.*

The mediterranean species under threats

The Mediterranean region is also remarkable for its high number of species threatened with extinction (Tables 2). Regarding species living in the basin's wetlands and evaluated by the IUCN Red List of Threatened Species, the 36% of wetland dependent species is globally threatened with extinction (Mediterranean Wetlands Outlook 2, 2018).

Group	Number of threatened species				% estimated completeness of IUCN Red List assessment at global (Mediterranean) level	% threatened species at global (Mediterranean) level
	CR	EN	VU	Total		
VERTEBRATES - TOTAL	94	157	207	458		
Amphibians	6	12	14	32	100	31
Birds	5	8	22	35	100	7
Freshwater fishes	60	83	81	224	96	37
Marine fishes **	7	15	46	68	100	7
Mammals	2	15	24	41	100	14
Reptiles	14	24	20	58	89	22
INVERTEBRATES - TOTAL	106	141	144	391		
Anthozoans *	0	3	1	4	21 (97)	14 (13)
Dung beetles	1	21	3	25	29 (35)	15 (13)
Butterflies	1	14	12	27	35 (98)	17 (7)
Freshwater Molluscs	103	98	119	320	(98)	(52)
Dragonflies & Damselflies	1	5	9	15	(95)	(10)
Freshwater crabs & shrimps	0	0	0	0	100	0
PLANTS	158	148	156	462	7	28
TOTAL	358	446	507	1,311		

*Tables 2: Globally threatened species in the Mediterranean Basin Hotspot. Source: CEPF 2017. Mediterranean Basin Biodiversity Hotspot Ecosystem Profile. Notes: CR = Critically Endangered; EN = Endangered; VU = Vulnerable; * = Mediterranean Sea only; ** = Atlantic Ocean and Mediterranean Sea..*

Freshwater molluscs and fishes, closely linked to wetland sites, are the groups with the largest number of threatened species overall. Many of these species are known from one or very few locations, where they are vulnerable to pollution and/or mining (Critical Ecosystem Partnership Fund (CEPF) 2017).

Wetland species are directly threatened by the disappearance and degradation of their habitats or excessive hunting, fishing, or harvesting. However, these pressures are the result of deeper causes – increasing populations, our way of consumption, lack of governance, climate change – which are acting at a national, Mediterranean, and even world wide scale.