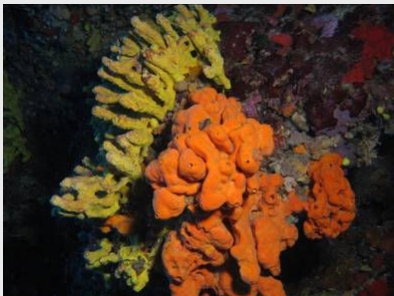


Mediterranean marine caves as biodiversity reservoirs: *a preliminary overview*

Vasilis Gerovasileiou & Eleni Voultziadou



Distribution of Mediterranean marine caves

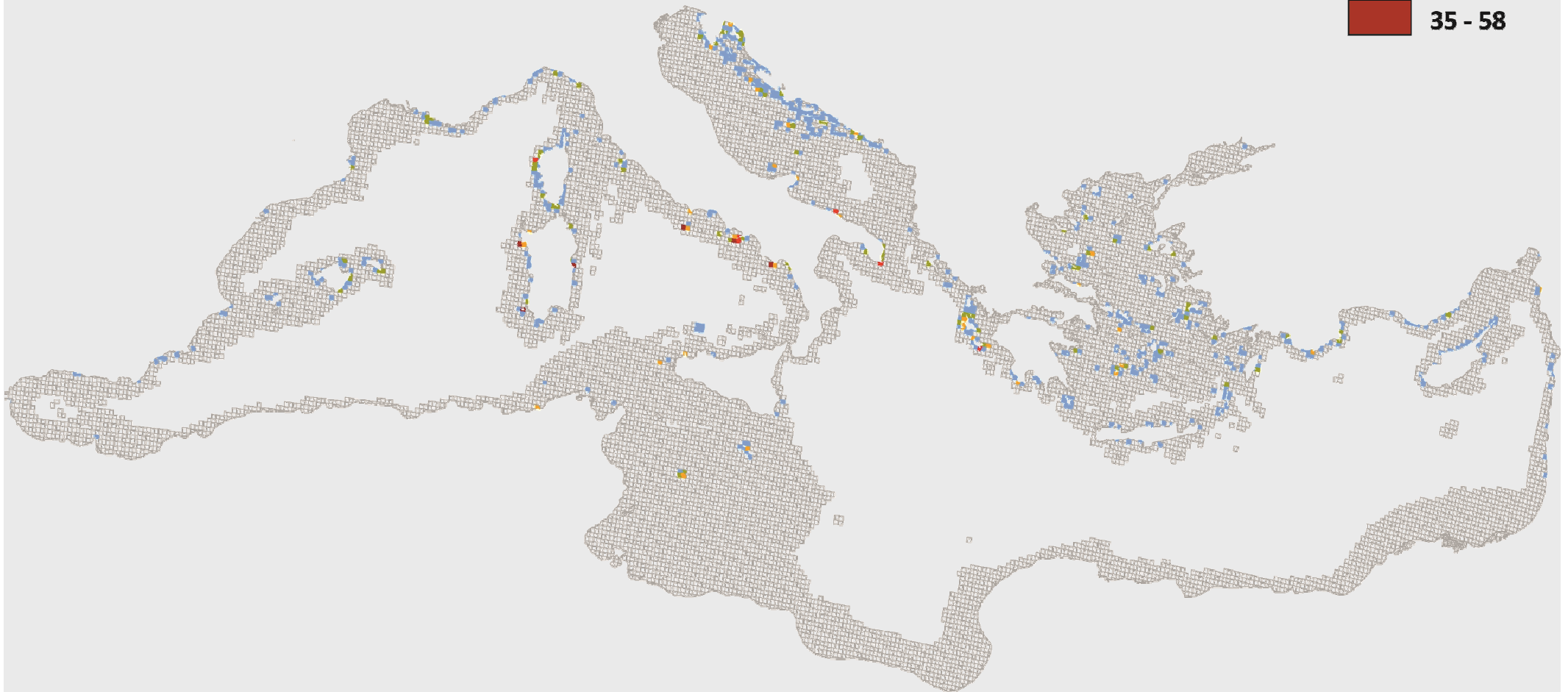
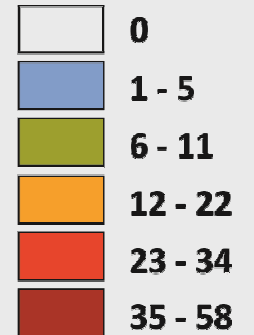
OPEN ACCESS Freely available online



Ecoregion-Based Conservation Planning in the Mediterranean: Dealing with Large-Scale Heterogeneity

Giakoumi, Sini, Gerovasileiou, Mazor, Beher, Possingham *et al.* (2013)

Cave No



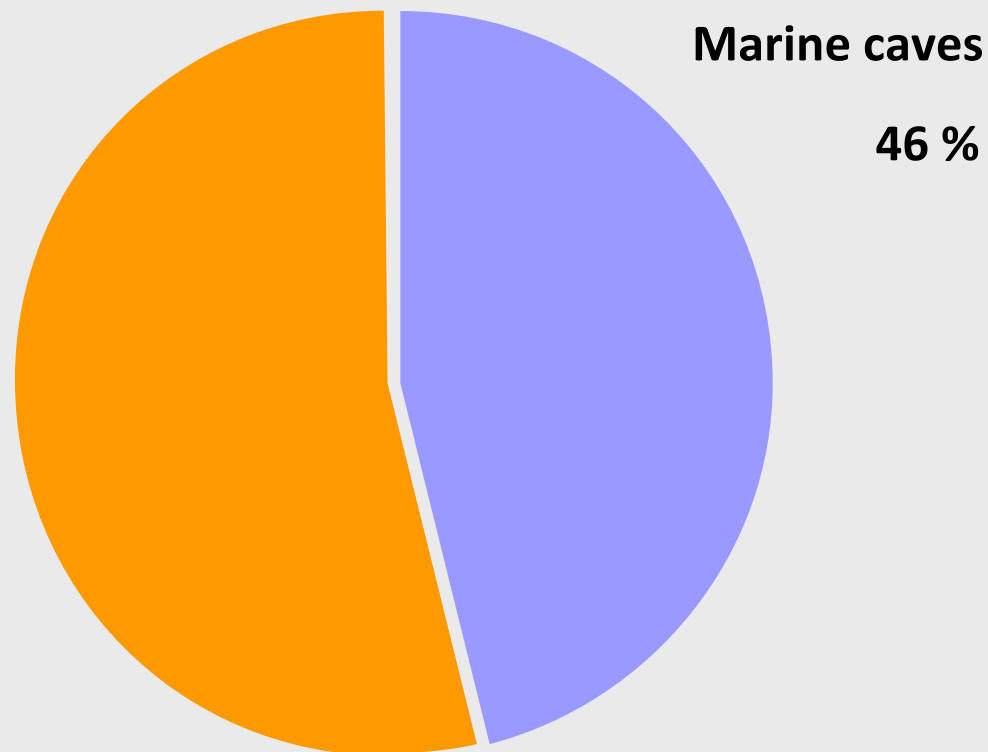
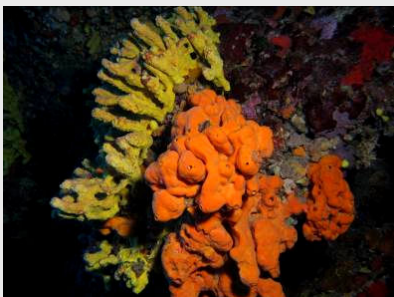
Sponge diversity in Mediterranean marine caves

OPEN ACCESS Freely available online



Marine Caves of the Mediterranean Sea: A Sponge Biodiversity Reservoir within a Biodiversity Hotspot

Gerovasileiou & Voultsiadou (2012)



Aim of the study



Overview of the Mediterranean marine cave biodiversity



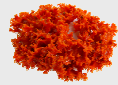
Significance of the marine cave habitat for the Mediterranean ecosystem



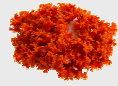
Gaps of knowledge deserving future research



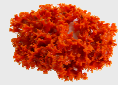
Mediterranean marine caves biodiversity database



307 scientific studies and primary research data from the north-eastern basin



Relevant ecological (e.g. cave zone, substrate type) and spatial information



All taxa were cross-checked and taxonomically updated using the WoRMS



Overall the database contains 26593 records

405	Species	N	AL	SC	CC	BS	FC	LS	SS	TS	TC	AN	AS	IS	NA	SA	A	LB	CE	CE Ref	SD	SD Ref	TD Part	TD Ref	UNSPECIFIED	INSP. REI			
406	Aaptos aaptos (Schmidt, 1864)	1	0	1	1	1	1	1	1	0	1	0	1	1	1	1	0	1	0	Grotta dell'Arenile (Tremiti), Grotta di	6	Misidacis, Bue Marino	14	Misidacis, Bue	11	Salento (CIO, MAR	13		
407	Acanthella acuta Schmidt, 1862	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	Cova Blava (Cabrera), Catedral, Vrbnik	9	Misidacis, Túnel Llarg	14	Grotte du Figuier	5	J-1, J-2, Selaata (L	22		
408	Acanthella annulata Sarà, 1958	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Grotta dei Misteri		1							
409	Acarus tortilis Topsent, 1892	1	0	0	0	0	1	0	0	1	0	1	1	0	0	0	0	0	0	Grotta di Mitigliano	1	Bue Marino (Tremiti)	1	Grotta della Gai	2	Banyuls-sur-Mer (C	2		
410	Aciculites mediterranea Manconi, Serusi & Piser	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0										
411	Agelas oroides (Schmidt, 1864)	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Zembra (Tunisia), Catedral (mouth), C	15	Misidacis, Túnel Llarg	33	Misidacis, Túne	11	J-1, J-2, Salento (C	39		
412	Alectona millari Carter, 1879	1	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	0	Cala Tonda (Tremiti)	1	Grotta di Ciolo, Bue M	7	Grotta di Ciolo,	6	Leuca E., Porto Ce	2		
413	Amorphinopsis pallescens (Topsent, 1892)	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0										
414	Antho (Acamia) coriacea (Bowerbank, 1874)	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0					Grotta della Gai	1				
415	Antho (Antho) involvens (Schmidt, 1864)	1	0	1	0	1	1	1	0	1	0	1	1	0	0	0	0	0	0	Cala Tonda (Tremiti), Grotta di Piccol	4	Grotta del Mago, Grot	3	Grotte d' Endou	2	Banyuls-sur-Mer (C	1		
416	Aplysilla rosea (Barrois, 1876)	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Grotta di Mitigliano, Zembra (Tunisia),	7	Túnel Llarg, Catedral,	13	Grotta di Mitigli	6	Catedral (LB), J-1,	15		
417	Aplysina aerophoba Nardo, 1843	1	0	1	1	0	0	0	1	0	1	1	1	0	1	0	1	0	0	Columbera cave, Agios Vasilios, Last	3	Columbera cave, Agio	2	Agios Vasilios	1	Túnel Llarg, Stražic	3		
418	Aplysina cavemicola (Vacelet, 1959)	1	0	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	Plane, Niolon, Vrbnik (KrK island), Me	4	Misidacis, Grotte du F	10	Misidacis, Túne	5	Banyuls-sur-Mer (C	6		
419	Asbestopluma hypogea Vacelet & Boury-Esnault	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0					Trois Pépés, Veli Gar	2	Trois Pépés, Ja	2		
420	Axinella cannabina (Esper, 1794)	1	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	0					Grotta Prima Karabun	4			Grotta di Torre del	4
421	Axinella damicornis (Esper, 1794)	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Galite archipelago (Tunisia), Cova Bla	8	Misidacis, Cova Blava	17	Misidacis, Túne	8	Porto Cesareo, Pu	24		
422	Axinella polyoides Schmidt, 1862	1	0	0	0	0	1	0	0	0	1	0	0	0	1	0	1	1	0	Niolon	1	Zembra & Galite archi	4			Kafar Abida (tunne	3		
423	Axinella rugosa (Bowerbank, 1866)	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0					Cabrera	1	Cabrera	1	J-1	1
424	Axinella vaceleti Pansini, 1984	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0					Grotta di Carabottino	1			Figuier, Trois Pepe	2
425	Axinella verrucosa (Esper, 1794)	1	0	1	0	1	1	1	1	1	0	1	1	1	1	1	1	0	0	Catedral (mouth), Vrbnik (KrK island),	3	Youra, Grotta di Mitig	11	Bue Marino (Tre	2	Banyuls-sur-Mer (C	8		
426	Axinyssa papillosa (Sarà & Siribelli, 1960)	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0					Grotte du Figuier	1				
427	Batzella inops (Topsent, 1891)	1	0	1	0	1	1	0	0	1	0	0	1	0	0	0	0	0	0	Catedral, Bagaud, Grotta Verde (Ustic	4	Bue Marino (Tremiti)	1			Grotta di Mitigliano	2		
428	Bubaris vermiculata (Bowerbank, 1866)	1	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0					Grotta di Mitigliano	1	Bue Marino (Tre	2	Cala Tonda (Tremi	3
429	Cacospongia mollior Schmidt, 1862	1	0	1	0	1	1	0	0	1	0	0	0	0	1	0	1	0	0	Cova Blava (Cabrera), Catedral, Baga	3	Bue Marino (Tremiti),	7	Bue Marino (Tre	1	Grotta del Mago, M	4		
430	Callyspongia subcornea Griessinger, 1971	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	Port-Miou	1	Grotte du Figuier, Gro	3						

Marine cave research

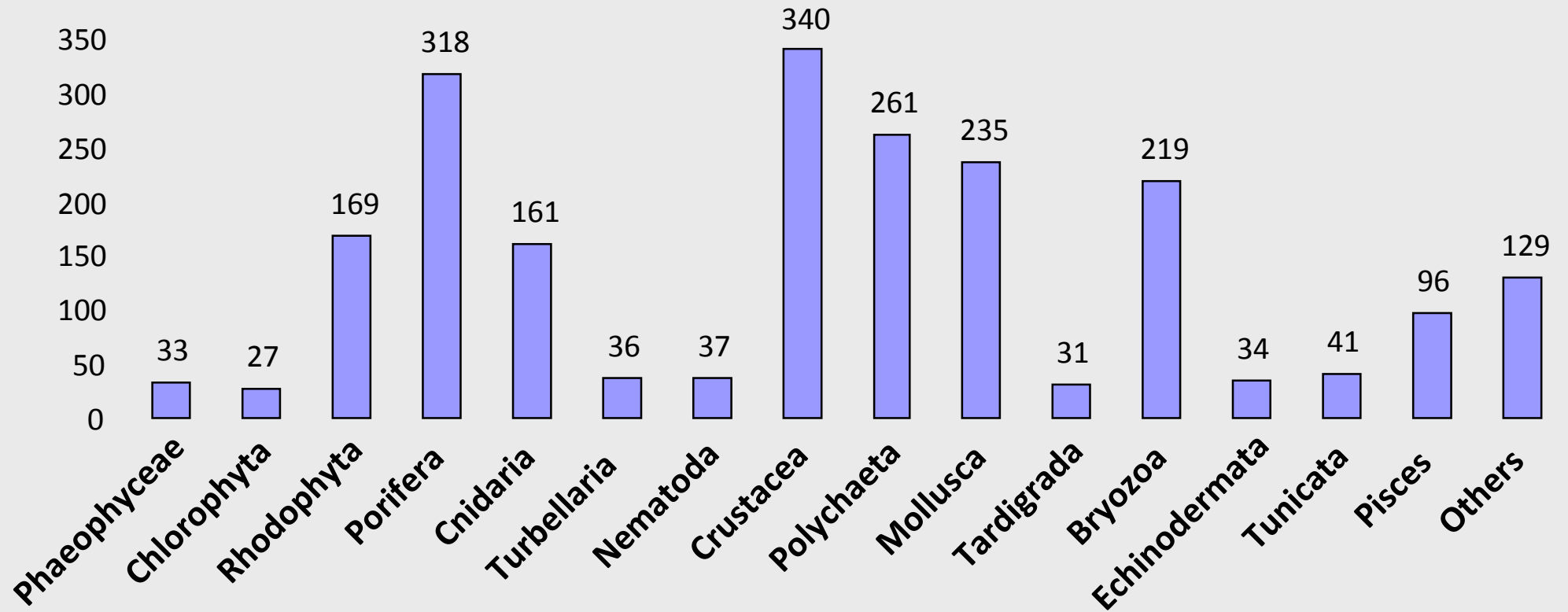


Modified from Voultziadou (2009)

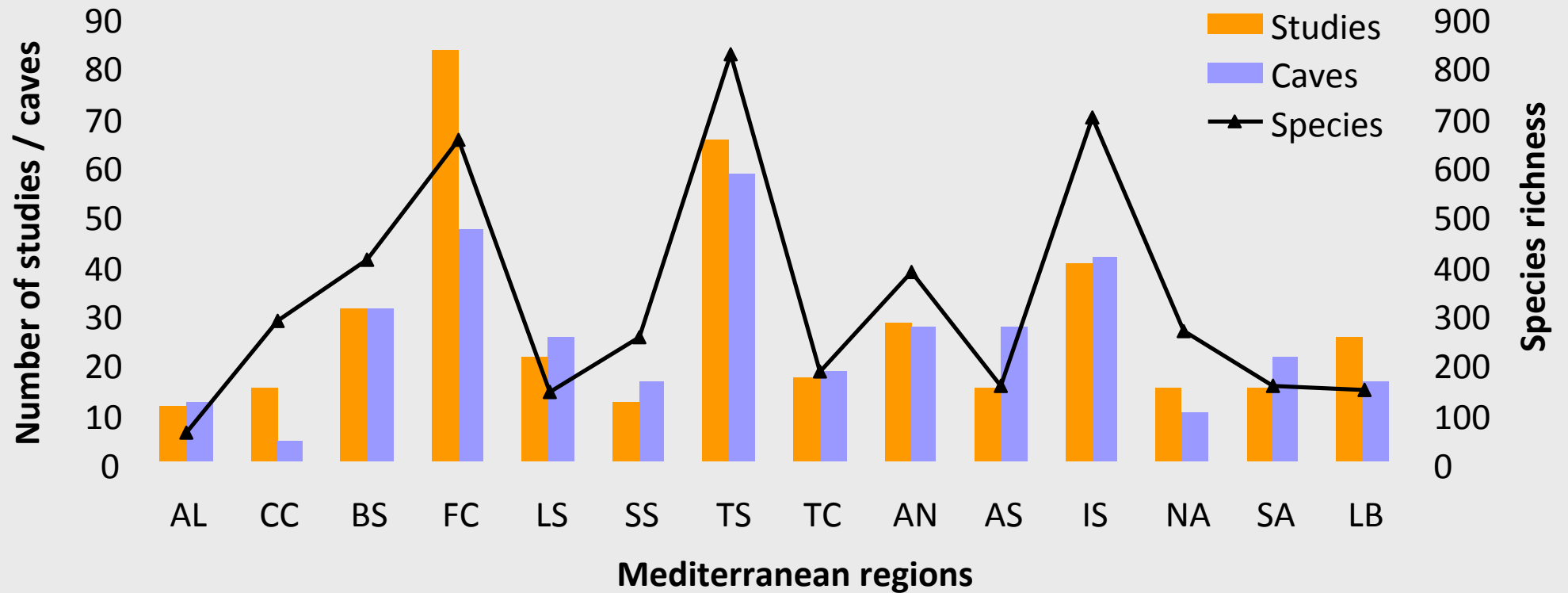
Mediterranean marine cave diversity

2167 taxa (13 % of the Mediterranean marine biota)

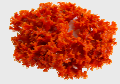
>350 caves in 15 countries



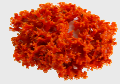
Mediterranean marine cave diversity



Problems during the data collection process



Lack of spatial and ecological information



Several caves having the same toponyms or single sites with multiple caves



Lack of information about the cave type

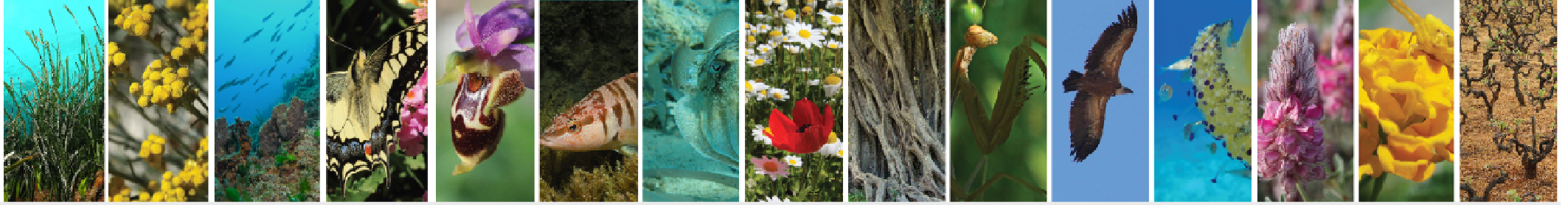


Taxonomic inconsistencies



Inexistent or limited data concerning particular areas or taxa





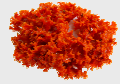
Biodiversity informatics infrastructures

How can I participate?

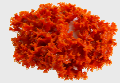
- ✓ Explore the web site: <http://www.lifewatchgreece.eu>
- ✓ Contribute and publish your own data and metadata
- ✓ Inform us about your needs (methods of analysis, software, etc.)
- ✓ Your messages to: info@lifewatchgreece.eu



Concluding remarks



Mediterranean marine caves constitute significant biodiversity reservoirs of great scientific interest and conservation value.



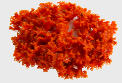
The caves surveyed to date represent only 12% of the Mediterranean caves recorded. Nevertheless, considerable representation of the total Mediterranean diversity was found for certain taxa.



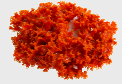
The taxa found in marine caves and their species richness varied among the different Mediterranean areas, reflecting variation in research effort, scientific priorities set by local researchers.



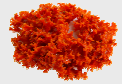
Suggestions for future research



Southern and eastern Mediterranean areas



Understudied groups of biota



Understudied cave communities and biogenic formations



Deeper caves



Peculiar cave types

