

Supplementary Material

Reviewing the knowledge on the genus *Patella* in the Mediterranean Sea: testing the effect of protection on the mean abundance and size of *Patella ferruginea*

Ana Cascales-Soler, Alfonso Ramos-Esplá, Aitor Forcada*

* **Correspondence:** Aitor Forcada: forcada@ua.es

1 Supplementary Tables

Supplementary Table 1. List of the studies found about *Patella* genus in the Mediterranean Sea with available data of abundance and/or size of individuals. For each article was identified the sites studied, country, coordinates of the location of the sites, level of protection and species studied.

Article	Site	Country	Y coord.	X coord.	Protection	Species
Aparici-Seguer et al., 1995	Chafarinas Islands	Spain	35.17863	-2.43063	MPA	<i>P. ferruginea</i>
Arroyo et al., 2011	Almería	Spain	36.81855	-2.44006	Control	<i>P. ferruginea</i>
	Granada		36.68945	-3.44498		
	Málaga		36.71808	-4.41215		
	Cádiz		36.56465	-6.23789		
Ayas, 2010	Mersin	Turkey	36.80815	34.6518	Control	<i>P. caerulea</i> <i>P. rustica</i>
Bannister, 1975	Manoel Island	Malta	35.90372	14.50243	Control	<i>P. caerulea</i> <i>P. rustica</i>
Barba et al., 2007	Alboran Island	Spain	35.93909	-3.03563	MPA	<i>P. ferruginea</i>
Batelli, 2016	Koper Bay	Slovenia	45.54468	13.71542	Control	<i>P. rustica</i>
Bazairi et al., 2004	Cala Iris of Al Hoceima	Morocco	35.14844	-4.36088	MPA	<i>P. ferruginea</i>
Beldi et al., 2012	Gulf of Annaba	Algeria	36.85518	7.81233	Control	<i>Patella spp</i>
Belkhdja et al., 2010	Channel of Bizerte	Tunisia	37.27525	9.88805	Control	<i>P. caerulea</i>
Belkhdja and Romdhane, 2012	Channel of Bizerte	Tunisia	37.27525	9.88805	Control	<i>P. caerulea</i>
	La Goulette		36.82175	10.31032		
	Sidi Rais Beach		36.77299	10.54890		
Belmokhtar, et al. 2022	West Coast of Algeria	Algeria	35.25832	-1.56280	Control	<i>P. caerulea</i> <i>P. rustica</i> <i>P. ferruginea</i>
Boudouresque et al., 1986	Zembra Island	Tunisia	37.12718	10.80261	MPA	<i>P. ferruginea</i>
Boumaza and Semroud, 2001	Habibas Islands	Algeria	35.72559	-1.13126	MPA	<i>P. ferruginea</i>
Casado et al., 2017	Cádiz	Spain	36.56465	-6.23789	Control	<i>P. ferruginea</i>
	Málaga		36.71808	-4.41215	Control	
Christiaens, 1973	Rincón	Morocco	35.68507	-5.29623	Control	<i>P. caerulea</i>

Supplementary Material

						<i>P. rustica</i> <i>P. ferruginea</i>
CMA-JA, 2014	Alboran Island	Spain	35.93909	-3.03563	MPA	<i>P. ferruginea</i>
Coppa et al., 2012	Mal di Ventre (Sardinia)	Italy	39.99000	8.30467	MPA	<i>P. ferruginea</i>
Coppa et al., 2015	Mal di Ventre (Sardinia)	Italy	39.99000	8.30467	MPA	<i>P. ferruginea</i>
Cossu, et al. 2006	Magdalena Archipelago	Italy	41.24731	9.40602	MPA	<i>P. ferruginea</i>
Cristo and Caronni, 2008	Cape Ceraso (Sardinia)	Italy	40.91886	9.63219	MPA	<i>P. ferruginea</i>
Cristo, et al 2007	Gulf of Olbia (Sardinia)	Italy	40.91532	9.57279	Control	<i>P. ferruginea</i>
Delgado et al., 2018	Ceuta	Spain	35.89134	-5.31653	MPA Control	<i>P. ferruginea</i>
El Amine, 2019	Paloma Island	Algeria	36.00478	-5.61976	MPA	<i>P. ferruginea</i> <i>P. caerulea</i> <i>P. rustica</i>
Espinosa et al., 2005	Algeciras Bay	Spain	36.16491	-5.43818	Control	<i>P. ferruginea</i>
Espinosa et al. , 2006	Ceuta	Spain	35.89134	-5.31653	Control	<i>P. caerulea</i> <i>P. ferruginea</i>
Espinosa et al., 2007	Ceuta	Spain	35.89134	-5.31653	Control	<i>P. caerulea</i>
Espinosa et al., 2008	Ceuta	Spain	35.89134	-5.31653	Control	<i>P. ferruginea</i>
Espinosa et al., 2009	Gibraltar	United Kingdom	36.12170	-5.34467	MPA	<i>P. ferruginea</i>
	Ceuta	Spain	35.89134	-5.31653	MPA	
	Ceuta	Spain	35.89134	-5.31653	Control	
Espinosa et al., 2014	Galeria (Corsica)	France	42.41851	8.64180	Control	<i>P. ferruginea</i>
	Cargese (Sardinia)	France	42.14478	8.59260	Control	
	Titian (Corsica)	France	41.54204	8.85234	Control	
	Bonifacio (Corsica)	France	41.38094	9.16970	Control	
	Asinara Island (Sardinia)	Italy	41.07379	8.32280	MPA	
	Capo Falcone (Sardinia)	Italy	40.97236	8.20196	MPA	
	Gulf of Olbia (Sardinia)	Italy	40.91532	9.57279	Control	
	Cala Moresca (Sardinia)	Italy	40.98720	9.64636	Control	
	Porto Rafael (Sardinia)	Italy	41.18304	9.37122	Control	
	Capo Testa (Sardinia)	Italy	41.24475	9.14434	MPA	
	Punta Mugnona, Aegadian Islands	Italy	37.99354	12.03012	MPA	
	Grotta Preseppe (Sicilia)	Italy	38.10052	11.67640	MPA	
	Punta Sottile (Sicily)	Italy	38.03620	12.29889	Control	
	Punta Rosso di Nica (Pantelaria)	Italy	36.89482	11.97989	MPA	
El Haouaria	Tunisia	37.05907	10.99378	Control		
Kelibia	Tunisia	36.83504	11.11743	Control		
Zembra Islands	Tunisia	37.12718	10.80261	MPA		
Espinosa et al., 2018	Ceuta	Spain	35.89134	-5.31653	Control	<i>P. ferruginea</i>
Espinosa and Bazairi, 2009	Zembra Islands	Tunisia	37.12718	10.80261	MPA	<i>P. ferruginea</i>
Espinosa, 2006	Ceuta	Spain	35.89134	-5.31653	Control	<i>P. ferruginea</i>
Espinosa, 2009	Habibas Islands	Algeria	35.72559	-1.13126	MPA	<i>P. ferruginea</i>

	Plane Island	Tunisia	37.18143	10.32768	Control	
Fa et al., 2018	Gibraltar	United Kingdom	36.12170	-5.34467	MPA	<i>P. ferruginea</i>
Ferranti, et al. 2019	Génova	Italy	44.38638	8.95582	Control	<i>P. ferruginea</i>
Frenkiel, 1975	Rachgoun	Algeria	35.32204	-1.48049	Control	<i>P. ferruginea</i>
González-Jiménez, 2019	El Estrecho Natural Park	Spain	36.01338	-5.58946	Control	<i>P. ferruginea</i>
Guallart et al., 2006	Chafarinas Islands Melilla	Spain	35.17863	-2.43063	MPA	<i>P. ferruginea</i>
			35.29034	-2.93254	Control	
Guallart et al., 2013	Melilla	Spain	35.29034	-2.93254	Control MPA	<i>P. ferruginea</i>
Guallart and Templado, 2016	Chafarinas Islands	Spain	35.17863	-2.43063	MPA	<i>P. ferruginea</i>
Guerra-Garcia et al., 2004	Ceuta	Spain	35.89134	-5.31653	Control	<i>P. ferruginea</i>
Herrera-Paz, 2014	Tabarca Island Aguamarga Beach (Alicante)	Spain	38.16637	-0.48245	MPA	<i>Patella spp</i>
		Spain	38.30405	-0.51730	Control	
IEL, 2017	Tabarca Island	Spain	38.16637	-0.48245	MPA	<i>Patella spp</i>
Kallouche, 2018	Plane Island Habibas Islands	Tunisia	37.18143	10.32768	MPA	<i>P. ferruginea</i>
		Algeria	35.72559	-1.13126		
Kallouche, et al. 2014	Oran	Algeria	35.97348	-0.70195	Control	<i>P. rustica</i>
Kallouche, et al. 2020	Paloma Island	Algeria	36.00478	-5.61976	MPA	<i>P. ferruginea</i>
Küçükdermenci et al., 2017	Urla	Turkey	38.20996	26.63562	Control	<i>P. caerulea</i>
Laborel-Deguen and Laborel, 1991	Córcega	France	42.07593	9.45894	MPA	<i>P. ferruginea</i>
Larbi Doukara, 2007	Cap Falcon	Algeria	35.72559	-1.13126	Control	<i>P. ferruginea</i>
Larbi Doukara, 2007	Habibas Islands	Algeria	35.72559	-1.13126	MPA	
Limam et al., 2004	Zembra Islands	Tunisia	37.12718	10.80261	MPA	<i>P. ferruginea</i>
Marra et al., 2016	Mal di Ventre (Sardinia)	Italy	39.99000	8.30467	MPA	<i>P. ferruginea</i>
	Capo San Marco (Sardinia)	Italy	39.76630	8.45714		
Marra et al., 2018	Mal di Ventre (Sardinia)	Italy	39.99000	8.30467	MPA	<i>Patella spp</i>
Meinesz et al., 2010	Scandola Nature Reserve (Corsica)	France	42.37140	8.56954	MPA	<i>P. ferruginea</i>
Ocaña et al., 2009	Ceuta	Spain	35.89134	-5.31653	Control	<i>P. ferruginea</i>
Orozco et al., 2013	Peñón de Vélez de la Gomera	Spain	35.17374	-4.30021	Control	<i>P. ferruginea</i>
Öztürk and Ergen, 1999	Saros Bay	Turkey	40.57543	26.62449	Control	<i>P. caerulea</i> <i>P. rustica</i> <i>P. ferruginea</i>
Paracuellos et al., 2003	Alboran Island	Spain	35.93909	-3.03563	MPA	<i>P. ferruginea</i>
Pascal, 2002	Lavezzi Islands	France	41.36835	9.26392	Control	<i>P. ferruginea</i>
PNUE/PAM/CAR-ASP 2004a	Zembra Islands	Tunisia	37.12718	10.80261	MPA	<i>P. ferruginea</i>
PNUE/PAM/CAR-ASP 2004b	Cala Iris of Al Hoceima	Morocco	35.14844	-4.36088	MPA	<i>P. ferruginea</i>
Prusina et al., 2014	Palermo (Sicily)	Italy	38.13969	13.37437	Control	<i>P. rustica</i> <i>P. caerulea</i> <i>P. ulyssiponensis</i>
Prusina et al., 2015	Zaton	Croatia	44.22034	15.16445	Control	<i>P. rustica</i>
Ramos Esplá et al., 2016	Rachgoun	Algeria	35.32204	-1.48049	Control	<i>P. ferruginea</i>
	Ceuta	Spain	35.89134	-5.31653	MPA	<i>P. ferruginea</i>

Rivera-Ingraham et al., 2011a					Control	
Rivera-Ingraham et al., 2011b	Ceuta	Spain	35.89134	-5.31653	Control MPA	<i>P. ferruginea</i>
Ruitton et al., 2000	Marseille and Cannes Bay	France	43.12206	6.39538	Control	<i>P. caerulea</i>
Safriel and Ramos-Esplá, 1995	Dor Habonim Reserve	Israel	32.65114	34.92600	MPA	<i>Patella</i> spp.
	Nahsholim Beach	Israel	32.65822	34.92074	Control	
	Tabarca Island	Spain	38.16637	-0.48245	MPA	
	Santa Pola	Spain	38.19841	-0.51330	Control	
Sais-Cambra, 2019	Tabarca Island	Spain	38.16637	-0.48245	MPA	<i>P. rustica</i> <i>Patella</i> spp.
	Santa Pola	Spain	38.19841	-0.51330	Control	<i>P. rustica</i> <i>Patella</i> spp.
Taibi et al. 2013	Rachgoun	Algeria	35.32204	-1.48049	Control	<i>P. ferruginea</i>
Tlig-Zouari et al., 2010	Korbous	Tunisia	36.81657	10.56701	Control	<i>P. ferruginea</i>
	Kelibia		36.83504	11.11743	Control	
	El Haouaria		37.05907	10.99378	Control	
	Zembra Islands		37.12718	10.80261	MPA	
Vafidis et al., 2020	Pagositikos Gulf	Greece	39.25446	22.96823	Control	<i>P. caerulea</i>
Vela and Leoni, 2007	Bastia	France	42.68978	9.44993	Control	<i>P. ferruginea</i>
Zarrouk et al., 2016	Zembra Islands	Tunisia	37.12718	10.80261	MPA	<i>P. ferruginea</i>
Zarrouk et al., 2018	Zembra Islands	Tunisia	37.12718	10.80261	MPA	<i>P. ferruginea</i>

2 Supplementary References

Aparici-Seguer, V., Guallart-Furió, J. and Vicent-Rubert, J.J. (1995). *Patella ferruginea* population in Chafarinas Islands (Alboran Sea, Western Mediterranean). 12th International Malacological Congress. Vigo: Instituto de Investigaciones Marinas (CSIC). p. 119–120.

Arroyo, M.C., Moreno, D., Barrajon, A., de la Linde, A., Remón, J.M., de la Rosa, J., Fernández-Casado, M., Gómez, G., Ruiz-Giráldez, F., Vivas, M.S. and Fernández, E. (2011). Trabajos de seguimiento de la lapa ferruginosa *Patella ferruginea* Gmelin, 1791 en Andalucía en el marco de la Estrategia Nacional de Conservación de la especie. Mediterránea, Serie de Estudios Biológicos, 2011 Época II, Número Especial, pp. 9-46.

Ayas, D. (2010). Distribution and morphometric characteristics of *Patella* species (Archaeogastropoda) in Mersin-Viranehir region of the Northeastern Mediterranean Sea. Journal of Fisheries Sciences, 4, 171-176.

Bannister, J.V. (1975). Shell parameters in relation to zonation in Mediterranean limpets. Marine Biology, 31(1), 63-67.

Barba, R., Nevado, J.C., Moreno, D., de la Linde, A., Remón, J.M., de la Rosa, J., Arroyo, M.C., Fernández-Casado, M., Gómez, G., Barrajon, A. and Gordillo, I. (2007) Inventario de individuos vivos

de *Patella ferruginea* en Andalucía (2004–2006). Unpubl. Rep., Consejería de Medio Ambiente, Junta de Andalucía, Sevilla, Spain, 22 pp.

Battelli, C. 2016. Morphometric characteristics, vertical distribution and density of the limpet *Patella caerulea* in relation to different substrata of the Bay of Koper (Gulf of Trieste, northern Adriatic). Scientific and Research Center of the Republic of Slovenia, 26(2), p145.

Bazairi, H., Salvati, E., Tunesi, L. and Agnesi, S. (2004). Considerations on a population of the endangered marine mollusc *Patella ferruginea* Gmelin, 1791. Bollettino Malacologico, 40(9-12), 95-100.

Beldi, H., Boumaza, F. Z., Draredja, B. and Soltani, N. (2012). Biodiversité des patellidae (Gastropoda, Prosobranchia) du Golfe d'Annaba (Algérie nord-est). Bulletin de la Société Zoologique de France, 137(1-4), 121-132.

Belkhodja, H.E.L.A., Jaafoura, M.H., Missaoui, H. and Romdhane, M.S. (2010). Etude de la reproduction de *Patella caerulea* Linnaeus, 1758 (Mollusque, Gasteropode) de la côte nord de la Tunisie. Bulletin de l'Institut National des Sciences et Technologies de la Mer de Salammbô, 37, 41-49.

Belkhodja, H. and Romdhane, M. S. (2012). Etude morphométrique du mollusque gastéropode *Patella caerulea* Linnaeus, 1758 des côtes nord de la Tunisie. Bulletin de l'Institut National des Sciences et Technologies de la Mer de Salammbô, 39, 15-23.

Belmokhtar, F., Belmokhtar, R., Kerfouf, A. and Hamed, M.B.B. (2022). Morphometric analysis of three Mediterranean limpets *Patella caerulea* Linnaeus, 1758, *P. rustica* Linnaeus, 1758 and the endangered *P. ferruginea* Gmelin, 1791 (Gastropoda Patellidae) from the Algerian West Coast. Biodiversity Journal, 13 (3), 483–494.

Boudouresque, C.F., Harmelin, J.G. and Jeudy De Grissac, A. (1986). Le benthos marin de l'île de Zembra (Parc National, Tunisie). GIS Posidonie publishers, Marseille, 105-110.

Boumaza, S. and Semroud, S. (2001). Inventaire de la population de *Patella ferruginea* Gmelin, 1791 des Iles Habibas (ouest Algerien). Rapport du Congrès de la Commission Internationale pour l'Exploration Scientifique de la Mer Méditerranée, 36: 361

Casado, M.F., del Carmen Arroyo, M. and Navarro, M.S.V. (2017). Caracterización de las poblaciones de la lapa ferruginosa (*Patella ferruginea* Gmelin, 1971) de la costa norte del estrecho de Gibraltar. Almoraima. Revista de Estudios Campogibaltareños, (47), 181-202.

Christiaens, J. (1973). Révision du genre *Patella* (Mollusca, Gastropoda). Bulletin Du Muséum National d'Histoire Naturelle, Zoologie, 121(3-182), 1305–1392.

CMA-JA (2014). Informe Final de Resultados 2014. Programa de Gestión Sostenible del Medio Marino Andaluz. Consejería de Medio Ambiente y Ordenación del Territorio, Junta de Andalucía, p.126.

Coppa, S., de Lucia, G.A., Massaro, G., and Magni, P. (2012). Density and distribution of *Patella ferruginea* in a marine protected area (western Sardinia, Italy): Constraint analysis for population conservation. Mediterranean Marine Science, 13(1), 108–117.

- Coppa, S., De Lucia, G.A., Massaro, G., Camedda, A., Marra, S., Magni, P. and Espinosa, F. (2015). Is the establishment of MPAs enough to preserve endangered intertidal species? The case of *Patella ferruginea* in Mal di Ventre Island (W Sardinia, Italy). *Aquatic Conservation: Marine and Freshwater Ecosystems*, 26(4), 623-638.
- Cossu, A., Deluca, M. and Guelfi, C., (2006). Distribuzione spaziale dei popolamenti a *Lithophyllum byssoides*, a *Patella ferruginea* e della frangia a *Cystoseira* sp. nell'arcipelago di La Maddalena (Sardegna-Italia). *Biologia Marina Mediterranea*, 13 (2), 84-85
- Cristo, B. and Caronni, S., (2008). Osservazioni sullo stato di conservazione di *Patella ferruginea* (Gmelin, 1791) nelle vicinanze di Capo Ceraso (Golfo di Olbia, Sardegna nord-orientale). *Biologia Marina Mediterranea*, 15 (1), 302-303.
- Cristo, B., Caronni, S. and Floris, A., (2007). Osservazioni su *Patella ferruginea* Gmelin 1791 (Mollusca, Gastropoda) nel Golfo di Olbia. *Biologia Marina Mediterranea*, 14 (2), 344-345.
- Delgado, M.J.M., Torre, F.E., Fa, D.A., Paneque, A. P. and García-Gómez, J. C. (2018). Estado de la población de *Patella ferruginea* en el área del estrecho de Gibraltar. *Almoraima. Revista de Estudios Campogibraltares*, 49, 115-130.
- El Amine, S.M. (2019). Cartographie de la distribution des Mollusques Gastéropodes Patellidae de l'île Paloma. Thesis Degrée Universidad de Orán, Argelia, 59 pp.
- Espinosa, F., Fa, D.A. and Ocaña, T.M. (2005). Estado de la especie amenazada *Patella ferruginea* Gmelin, 1791 (Gastropoda: Patellidae) en la bahía de Algeciras y Gibraltar. *Iberus*, 23 (2), 39-46.
- Espinosa, F., Guerra-García, J.M., Fa, D. and García-Gómez, J.C. (2006). Effects of competition on an endangered limpet *Patella ferruginea* (Gastropoda: Patellidae): Implications for conservation. *Journal of Experimental Marine Biology and Ecology*, 330(2), 482-492.
- Espinosa, F., Guerra-García, J.M., and García-Gómez, J.C. (2007). Sewage pollution and extinction risk: An endangered limpet as a bioindicator? *Biodiversity and Conservation*, 16(2), 377-397.
- Espinosa, F., Rivera-Ingraham, G. and García-Gómez, J.C. (2008). Seasonal activity and foraging behaviour of the endangered limpet *Patella ferruginea*. *Ethology Ecology and Evolution*, 20(2), 173-181.
- Espinosa, F., Rivera-Ingraham, G. A., Fa, D. and García-Gómez, J.C. (2009). Effect of human pressure on population size structures of the endangered ferruginean limpet: toward future management measures. *Journal of Coastal Research*, 254, 857-863.
- Espinosa, F., Rivera-Ingraham, G.A., Maestre, M., González, A.R., Bazairi, H. and García-Gómez, J. C. (2014). Updated global distribution of the threatened marine limpet *Patella ferruginea* (Gastropoda: Patellidae): An example of biodiversity loss in the Mediterranean. *Oryx*, 48(2), 266-275.
- Espinosa, F., Rivera-Ingraham, G. A., Ostalé-Valriberas, E. and García-Gómez, J.C. (2018). Predicting the fate of the most endangered marine invertebrate of the Mediterranean: The power of long-term monitoring in conservation biology. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 28(6), 1283-1293.

Espinosa, F. and Bazairi, H. (2009). Étude biologique des populations de *Patella ferruginea* de l'archipel de Zembra. Rapport final. Initiative pour les Petites Iles de Mediterranee, Conservatoire du Littoral, France, 34 pp.

Espinosa, F. (2006). Caracterización biológica del molusco protegido *Patella ferruginea* Gmelin, 1791 (Gastropoda: Patellidae): bases para su gestión y conservación. PhD Thesis, University of Seville.

Espinosa, F. (2009). Populational status of the endangered mollusc *Patella ferruginea* Gmelin, 1791 (Gastropoda, Patellidae) on Algerian islands (SW Mediterranean). *Animal Biodiversity and Conservation*, 32(1), 19-28.

Fa, D.A., Finlayson, G., Sempere-Valverde, J. and García-Gómez, J.C. (2018). 'Impossible' re-introduction of the endangered limpet *Patella ferruginea* Gmelin, 1791? Progress in resolving translocation mortality. *Endangered Species Research*, 37, 219-232.

Ferranti, M.P., Monteggia, D., Asnaghi, V., Dagnino, A., Gaino, F., Moretto, P. and Chiantore, M. (2019). Distribution of the Mediterranean ribbed limpet *Patella ferruginea* Gmelin, 1791 along the Ligurian coast and implications for conservation actions. *Mediterranean Marine Science*, 20(3), 496-501.

Frenkiel, L. (1975). Contribution à l'étude des cycles de reproduction des Patellidae en Algérie. *Pubblicazioni della Stazione Zoologica di Napoli*, 39, 153-189.

González-Jiménez, G., López-Cárdenas, C., Mesa-Méndez, J.A., Bautista-Ollivier, M., Gallego-Medina, P., Garastazu-Romero, T. de, Rodríguez, B. C. and Vigo-Ferrera, P. (2019). Evolución de *Patella ferruginea* (Gmelin, 1791) en el Parque Natural del Estrecho. Resultados de una vigilancia a medio plazo (2012-2017). *Almoraima. Revista de Estudios Campogibraltareños*, (50), 235-242.

Guallart, J. and Templado, J. (2016). Distribución, abundancia y selección del hábitat de *Patella ferruginea* (Mollusca, Gastropoda) en las islas Chafarinas (Mediterráneo suroccidental) *Iberus*34(2), 127-162.

Guallart, J., Templado, J., Calvo, M., Cabezas, P., Acevedo, I., Machordom, A. and Luque, A. A. (2006). Inventario y seguimiento de *Patella ferruginea* en España, así como la elaboración de una propuesta de estrategia de conservación de la especie. Informe final. Unpubl. Final Rep., Ministerio de Medio Ambiente, Madrid, Spain.

Guallart, J., Luque, Á.A., Acevedo, I. and Calvo, M. (2013). Distribución y censo actualizado de la lapa ferrugínea (*Patella ferruginea* Gmelin, 1791) en el litoral de Melilla (Mediterráneo suroccidental). *Iberus*, 31(1), 21-51.

Guerra-Garcia, J.M., Corzo, J., Espinosa, F. and Garcia-Gomez, J.C. (2004). Assessing habitat use of the endangered marine mollusc *Patella ferruginea* (Gastropoda, Patellidae) in northern Africa: preliminary results and implications for conservation. *Biological Conservation*, 116(3), 319-326.

Herrera-Paz, D.L. (2014). Análisis de dos poblaciones de *Patella* spp. en un área marina protegida (Nueva Tabarca) y un área no protegida (Aguamarga) en el litoral rocoso de Alicante (SE Península Ibérica). MSc Thesis University of Alicante, Spain.

- IEL (2017). Seguimiento científico de la Reserva Marina de Interés Pesquero de la Isla de Tabarca. Informe técnico Instituto de Ecología Litoral. 142 pp.
- Kallouche, M.M. (2018). Dynamique spatio temporelle de la structure écobioécologique des patelles de la zone côtière oranaise, PhD Thesis, University of Oran,
- Kallouche, M.E.M., Benaissa, N., Rouane-Hacene, O., Soufi, M.E.A., Bouderbala, M., Bouras, D. and Mouffok, S. (2020). Endangered status of *Patella ferruginea* in a limpet assemblage hotspot (Plane Island: South West Alboran, Mediterranean Sea): Local distribution factors and species abundance. *Journal of Marine and Island Cultures*, 9(2), 136-154.
- Kallouche, M.M., Bouras, D. and Hussein, K.B. (2014). Faunal composition, distribution and richness of the Oran's intertidal coastal zone (Mediterranean Sea, Algeria), *Journal of Biodiversity and Environmental Sciences*, 5 (4): 122-132.
- Küçükdermenci, A., Aynur, L.Ö.K., Kirtik, A. and Kurtay, E. (2017). The meat yield variations of *Patella caerulea* (Linnaeus, 1758) in Urla, Izmir Bay. *Acta Biologica Turcica*, 30(4), 174-177.
- Laborel-Deguen, F. and Laborel, J. (1991). Statut de *Patella ferruginea* Gmelin en Méditerranée. Les Espèces marines à protéger en Méditerranée. *Les espèces marines à protéger en Méditerranée*, Marseille, GIS Posidonie Publ., 91-103
- Larbi Doukara, K. (2007). La Patelle géante *Patella ferruginea* Gmelin, 1791: Statut, biologie, écologie et distribution sur le littoral occidental algérien. MSc Thesis . Université Es Sénia, Oran (Algérie),
- Limam, A., Rais, C. and Ramos-Esplá, A.A. (2004). Project regional pour le développement d'aires protégées marines et côtières dans la region méditerranéenne (Project MedMPA). Activité MP3: élaboration du plan de gestion de la partie marine du Parc National de Zembra et Zembretta. Rapport global des travaux de prospection marine. Unpubl. Rep. MEDMPA Project, Tunis, Tunisia.
- Marra, S., de Lucia, G.A., Camedda, A., Espinosa, F., and Coppa, S. (2016). New records of the distribution and conservation status of the endangered limpet *Patella ferruginea* in Sardinia (Italy, W Mediterranean). *Aquatic Conservation: Marine and Freshwater Ecosystems*, 26(3), 607-612.
- Marra, S., Coppa, S., Camedda, A., Massaro, G. and de Lucia, G.A. (2018). The exploitation of limpets in a Mediterranean Marine Protected Area: assessing the effectiveness of protection in the intertidal zone. *Mediterranean Marine Science*, 18(3), 406-423.
- Meinesz, C., Soulet, C., Bottin, L., Cottalorda, J.M., Markovic, L., Thibaut, T. and Meinesz, A. (2010). Evolution des espèces médiolittorales dans la zone de protection intégrale de la réserve naturelle de Scandola, Corse. *Ecosystèmes Côtiers Marins et Réponses aux Stress*, 1-21.
- Ocaña, O., Ramos, A. and Templado, J (2009). Los paisajes sumergidos de Ceuta y su biodiversidad Fundación Museo del Mar de Ceuta. 246 pp.
- Orozco, Á., Guallart, J. and Templado, J. (2013). Population status of the endangered limpet *Patella ferruginea* (Mollusca: Patellidae) in the Penon de Velez de la Gomera (south-west Mediterranean Sea). *Marine Biodiversity Records*, 6, e121.

- Öztürk, B. and Ergen, Z. (1999). *Patella* species (Archaeogastropoda) distributed in Saros Bay (Northeast Aegean Sea). *Turkish Journal of Zoology*, 23(6), 513-520.
- Paracuellos, M., Nevado, J. C., Moreno, D., Giménez, A. and Alesina, J.J. (2003). Conservational status and demographic characteristics of *Patella ferruginea* Gmelin, 1791 (Mollusca, gastropoda) on the Alboran Island (Western Mediterranean). *Animal Biodiversity and Conservation*, 26(2), 29-37.
- Pascal, P.Y. (2002). Comparaison inter-annuelle et inter-modale des effectifs et de la structure de la population de *Patella ferruginea* de l'Île Lavezzi (Corse-du-Sud). *Biologos*, 1, 1-5.
- PNUE/PAM/CAR-ASP (2004a). Elaboration du Plan de Gestion de la partie marine du Parc National de Zembra et Zembretta (Activité MP3). Projet Régional pour le Développement d'Aires Protégées Marines et Côtières dans la Région Méditerranéenne (Projet MedMPA). 64 pp.
- PNUE/PAM/CAR-ASP (2004b). Elaboration du plan de gestion de la partie marine du Parc National d'al Hoceima (Activité MP1). Projet Régional pour le Développement d'Aires Protégées Marines et Côtières dans la Région Méditerranéenne (Projet MedMPA). 115 pp.
- Prusina, I., Sarà, G., De Pirro, M., Dong, Y.W., Han, G.D., Glamuzina, B. and Williams, G.A. (2014). Variations in physiological responses to thermal stress in congeneric limpets in the Mediterranean Sea. *Journal of Experimental Marine Biology and Ecology*, 456, 34-40.
- Prusina, I., Peharda, M., Ezgeta-Balic, D., Puljas, S., Glamuzina, B. and Golubic, S. (2015). Life-history trait of the Mediterranean keystone species *Patella rustica*: growth and microbial bioerosion. *Mediterranean Marine Science*, 16(2), 393-401.
- Ramos Esplá A.A., Benabdi M., Forcada Almarcha A., Sghier Y. and Valle Pérez C. (2016). Cartographie des habitats marins clés de Méditerranée et initiation d'un réseau de surveillance autour de l'île de Rachgoun – Ouest Algérien. Projet MedKeyHabitats. Centre d'activités Régionales pour les Aires Spécialement Protégées (PNUE/PAM- CAR-ASP). 107 p. + Annexes
- Rivera-Ingraham, G.A., Espinosa, F. and García-Gómez, J.C. (2011a). Conservation status and updated census of *Patella ferruginea* (Gastropoda, Patellidae) in Ceuta: distribution patterns and new evidence of the effects of environmental parameters on population structure. *Animal Biodiversity and Conservation*, 34(1), 83-99.
- Rivera-Ingraham, G.A., Espinosa, F. and García-Gómez, J.C. (2011b). Population dynamics and viability analysis for the critically endangered ferruginean limpet. *Journal of Shellfish Research*, 30(3), 889-899.
- Ruitton, S., Francour, P. and Boudouresque, C.F. (2000). Relationships between algae, benthic herbivorous invertebrates and fishes in rocky sublittoral communities of a temperate sea (Mediterranean). *Estuarine, Coastal and Shelf Science*, 50(2), 217-230.
- Safriel, U. and Ramos-Esplá, A.A. (1995). MEDPAM limpet monitoring protocol. *MEDPAM News*, 5: 1-11.
- Sais-Cambra, M. (2019). Evaluación del efecto de protección y frecuentación sobre el género *Patella* en la Reserva Marina de Tabarca. Degree Thesis University of Alicante, Spain, 41pp.

Taibi, A., Oubaziz, B., Ghermaoui, M., Kaddour Hocine, A. and Bendimerad, M.E. (2013). Etude de la biométrie de la Patelle géante *Patella ferruginea* à l'île de Rachgoun. 3ème Colloque International sur la Biodiversité et Ecosystèmes Littoraux, Oran, Algérie, 584-592.

Tlig-Zouari, S., Rabaoui, L., Fguiri, H. and Ben Hassine, O.K. (2010). Status, habitat and distribution of the endangered limpet *Patella ferruginea* along the northern and eastern Tunisian coastline: results and implications for conservation. Cahiers de Biologie Marine, 51(1), 75.

Vafidis, D., Drosou, I., Dimitriou, K. and Klaoudatos, D. (2020). Population characteristics of the Limpet *Patella caerulea* (Linnaeus, 1758) in Eastern Mediterranean (Central Greece). Water, 12(4), 1186.

Vela, A. and Leoni, V. (2007). Etude des espèces de l'étage médio-littorale sur la jetée du port de commerce de Bastia-Recensement des effectifs de *Patella ferruginea*. Rapport technique, Corse, 18p.

Zarrouk, A., Romdhane, M.S. and Espinosa, F. (2016). Usefulness of marine protected areas as tools for preserving the highly endangered limpet, *Patella ferruginea*, in the Mediterranean Sea. Marine Biology Research, 12(9), 917-931.

Zarrouk, A., Romdhane, M.S. and Espinosa, F. (2018). Reintroduction of the highly endangered mollusk *Patella ferruginea* Gmelin, 1791 in an MPA: A novel approach to achieve high survival rates. Estuarine, Coastal and Shelf Science, 202, 259-269.