

Supplementary information: Italian still life paintings as a resource for reconstructing past Mediterranean aquatic biodiversity. Merquiol, L., Tribot, A.-S., Faget, D., Denys, G.P.J., Richard, T., Changeux, T.

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Figure S2 Information on artists' cities of activity, number of paintings found per city and spatial analysis of aquatic taxa representation. **a)** Cities of activity of the studied artists characterised by spatial characteristics (average elevation, distance from the sea, drainage area), demographic variables (historical population), and number of paintings sampled in each city across studied time periods, and **b)** Pearson's residual values of chi-squared tests performed on the proportion (%) of taxa from aquatic environments (freshwater, anadromous, catadromous, marine) and habitats (pelagic, benthopelagic, benthic) across cities (X-squared = 113.39, p-value < 0.001 and X-squared = 25.51, p-value = 0.49, for environments and habitats, respectively). Residual values are indicated by the coloured scale bars, with positive (blue) and negative (red) associations between variables.

Figure S3 Examples of still-life paintings representing cryptic species identified by taxonomy experts. Pike species: **a)** *Esox cisalpinus* in *Natura morta con pesci, crostacei e limone*, Boselli, Felice [circa 1700-1732]. Credits: Fondazione Federico Zeri, Università di Bologna, photographic credit: foto Amoretti (<https://catalogo.fondazionezeri.unibo.it/scheda/opera/87140/Boselli%20Felice%2C%20Natura%20morta%20con%20pesci%2C%20crostacei%20e%20limone>), **b)** *Esox lucius* in *Natura morta con pesci, crostacei e conchiglie*, Boselli, Felice [circa 1680-1732]. Credits: Fondazione Federico Zeri, Università di Bologna, photographic credit: foto Wells (<http://catalogo.fondazionezeri.unibo.it/scheda/opera/87305/Boselli%20Felice%2C%20Natura%20morta%20con%20pesci%2C%20crostacei%20e%20conchiglie>). Barbel species: **c)** *Barbus plebejus* in *Natura morta con pesci, crostacei, molluschi, selvaggina, frutta e ortaggi*, Kerckhoven, Jacob van de [circa 1660-1712]. Credits: Fondazione Federico Zeri, Università di Bologna, photographic credit: anonymous (<https://catalogo.fondazionezeri.unibo.it/scheda/opera/88742/Kerckhoven%20Jacob%20van%20de%2C%20Natura%20morta%20con%20pesci%2C%20crostacei%2C%20molluschi%2C%20selvaggina%2C%20frutta%20e%20ortaggi>), **d)** *Barbus fucini* in *Still life of fish with a char, a bass, a scorpionfish, a sea bream, and shells*, Ruoppolo, Giovan Battista [1670]. Credits: Wikimedia commons, photographic credit: UWCTransferBot (https://commons.wikimedia.org/wiki/File:Giovanni_Battista_Ruoppolo_-_Still_life_of_Fish_with_Char,_Bass,_Rockfish,_sea_Bream_and_Shells.jpg), **e)** *Barbus tyberinus sensus lato* (including *B. samniticus*) in *The fishmonger's shop*, Passerotti, Bartolomeo [1580]. Credits: Wikimedia commons, photographic credit: JarektUploadBot (https://commons.wikimedia.org/wiki/File:Bartolomeo_Passerotti_-_The_Fishmonger%27s_Shop_-_WGA17072.jpg).

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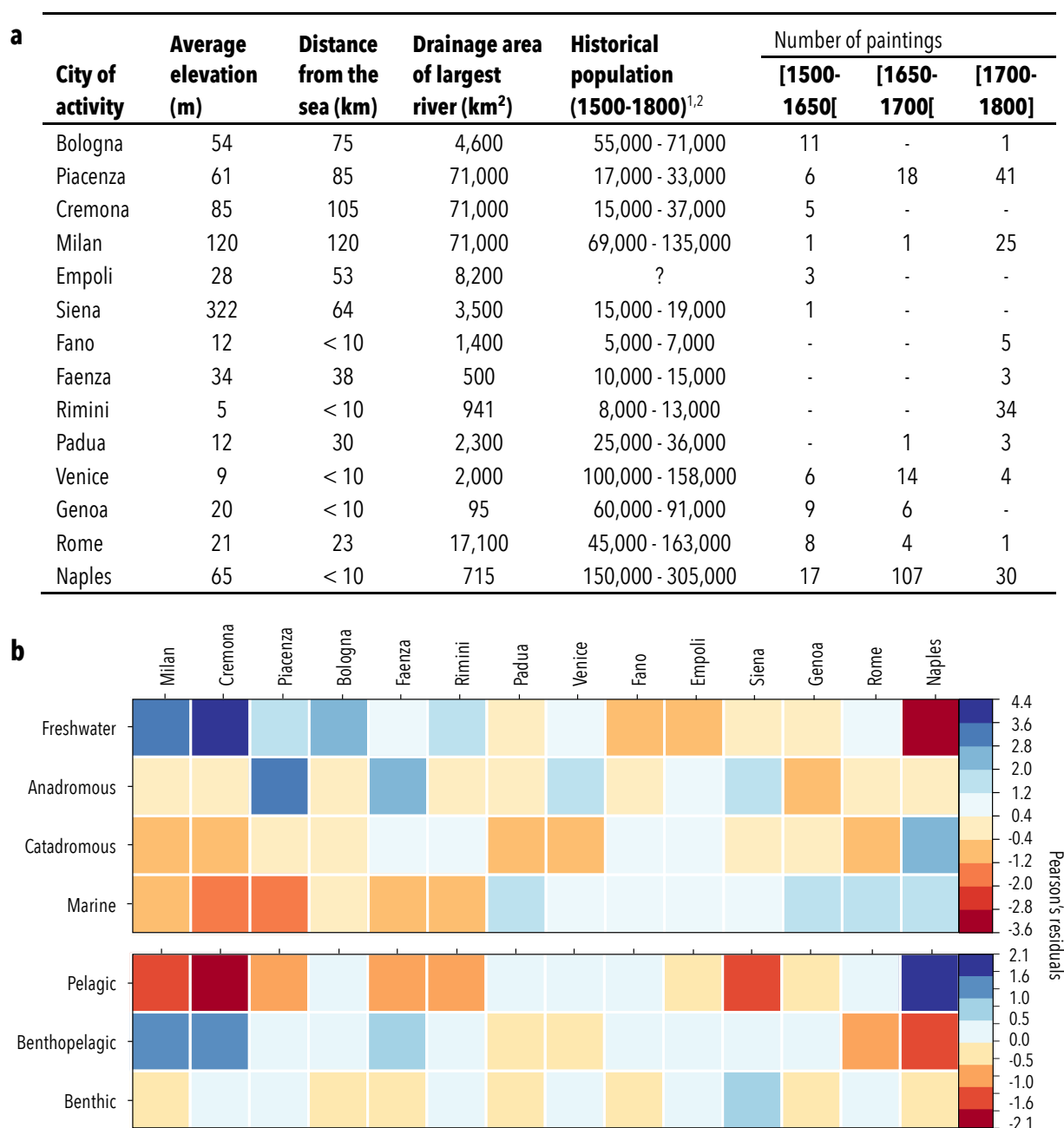
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Geographic zone	Statistic	p-value	
Inland			
<i>Cyprinus carpio</i>	0.39	0.001	***
<i>Esox</i> spp.	0.32	0.001	***
Astacidae	0.20	0.002	**
<i>Carassius</i> sp.	0.16	0.007	**
<i>Barbus</i> spp.	0.16	0.013	*
<i>Salmo trutta</i>	0.12	0.043	*
Adriatic			
<i>Mullus</i> sp.	0.25	0.001	***
<i>Ostrea</i> sp.	0.24	0.001	***
<i>Solea solea</i>	0.24	0.001	***
Pleuronectidae	0.17	0.005	**
<i>Squilla mantis</i>	0.15	0.021	*
<i>Salmo trutta</i>	0.12	0.043	*
Liguro-Tyrrhenian			
Scorpaenidae	0.33	0.001	***
<i>Palinurus elephas</i>	0.28	0.001	***
<i>Sepia officinalis</i>	0.26	0.001	***
<i>Sparus</i> spp.	0.25	0.001	***
<i>Paracentrotus lividus</i>	0.25	0.001	***
<i>Mullus</i> sp.	0.25	0.001	***
<i>Spondylus gaederopus</i>	0.24	0.001	***
<i>Loligo</i> sp.	0.23	0.001	***
Triglidae	0.21	0.001	***
<i>Diplodus</i> spp.	0.21	0.001	***
Mugilidae	0.21	0.002	**
<i>Corallium rubrum</i>	0.21	0.001	***
<i>Scomber</i> spp.	0.20	0.001	***
<i>Lithognathus mormyrus</i>	0.20	0.001	***
<i>Symphodus</i> spp.	0.19	0.003	**
<i>Patella</i> sp.	0.19	0.001	***
<i>Trachurus</i> sp.	0.19	0.003	**
<i>Uranoscopus scaber</i>	0.17	0.004	**
<i>Sardina pilchardus</i>	0.16	0.009	**
<i>Octopus vulgaris</i>	0.15	0.015	*
<i>Belone</i> sp.	0.14	0.020	*
<i>Pagellus</i> sp.	0.14	0.018	*
<i>Pinna nobilis</i>	0.13	0.027	*
<i>Conger conger</i>	0.13	0.043	*

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Artists	Birth - death dates	Artists	Birth - death dates
<i>Campania</i>		<i>Lazio</i>	
Anonymous (Naples)	? - ?	Raphael	1483 - 1520
Belvedere, Andrea	1652 - 1732	Salini, Tommaso	1575 - 1625
Bonanni, Andrea	? - ?	Tanari, Antonio	1600 - 1649
Chasse, Barthelemy	1659 - 1720	Valentino, Gian Domenico	1639 - 1715
Cusati, Gaetano	1686 - 1720	<i>Liguria</i>	
Della Questa, Francesco	1639 - 1724	Legi, Giacomo	1600 - 1645
Di Caro, Marco	? - ?	Vassallo, Antonio Maria	1617 - 1660
Grosso, Domenico	? - ?	<i>Lombardy</i>	
Loth, Onofrio	1665 - 1715	Anonymous (Lombardy)	? - ?
Nani, Mariano	1726 - 1804	Arcimboldo, Giuseppe	1527 - 1593
Porpora, Paolo	1617 - 1673	Blasio, Giovanni	1650 - 1699
Re, Vincenzo	1737 - 1762	Campi, Vincenzo	1536 - 1591
Recco, Elena	1654 - 1715	Cerutti, Giacomo	1698 - 1767
Recco, Giovanni Battista	1615 - 1660	Cipper, Giacomo Francesco	1664 - 1736
Recco, Giuseppe	1634 - 1695	Crastona, Margherita	1696 - 1776
Recco, Nicola Maria	? - ?	Crivelli, Angelo Maria	1703 - 1730
Ruoppolo, Giovan Battista	1629 - 1693	Crivelli, Giovanni	1685 - 1760
Vaccaro, Andrea	1604 - 1670	Pittore di Carlo Torre	1650 - 1700
<i>Emilia-Romagna</i>		<i>Marche</i>	
Arboroti, Bartolomeo	1594 - 1676	Abate, Paolo	1664 - 1725
Barbieri, Paolo Antonio	1603 - 1649	Ceccarini, Sebastiano	1703 - 1783
Boselli, Felice	1650 - 1732	Magini, Carlo	1720 - 1806
Cittadini, Pier Francesco	1616 - 1681	<i>Piemonte</i>	
Crespi, Giuseppe Maria	1665 - 1747	Monfort, Octavianus	1646 - 1696
Levoli, Nicola	1728 - 1801	<i>Tuscany</i>	
Monogrammist "PM"	? - ?	Chimenti, Jacopo	1551 - 1640
Passerotti, Bartolomeo	1529 - 1592	Fardella, Giacomo	? - ?
Rivalta, Giovanni	1756 - 1832	Petrazzi, Astolfo	1589 - 1665
Romagnolo	? - ?	<i>Veneto</i>	
Soardi, Lodovico	1764 - 1837	Cassana, Giovanni Agostino	1658 - 1720
<i>Lazio</i>		Heintz (II), Joseph	1600 - 1678
Anonymous (Rome)	? - ?	Kerckhoven, Jacob van de	1637 - 1712
Cerquozzi, Michelangelo	1602 - 1660	Strozzi, Bernardo	1581 - 1644
De Pesci, Alessandro	? - ?	Toeput, Lodewijk	1550 - 1605

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Family	Taxa	Family	Taxa
Class: Actinopterygii		Sparidae	<i>Pagellus</i> sp. (M)
Acipenseridae	<i>Acipenser</i> spp. (A)		<i>Pagrus</i> sp. (M)
Anguillidae	<i>Anguilla anguilla</i> (C)		<i>Sarpa salpa</i> (M)
Belonidae	<i>Belone</i> sp. (M)		ND (M)
Carangidae	<i>Trachinotus ovatus</i> (M)	Sphyraenidae	<i>Sphyraena</i> sp. (M)
	<i>Trachurus</i> sp. (M)	Syngnathidae	<i>Hippocampus guttulatus</i> (M)
Clupeidae	<i>Alosa</i> sp. (A)	Trachinidae	<i>Trachinus radiatus</i> (M)
	<i>Sardina pilchardus</i> (M)		ND (M)
Congridae	<i>Conger conger</i> (M)	Triglidae	<i>Chelidonichthys cuculus</i> (M)
Cyprinidae	<i>Abramis brama</i> (F)		<i>Chelidonichthys lucerna</i> (M)
	<i>Barbus fucini</i> (F)		<i>Trigla lyra</i> (M)
	<i>Barbus plebejus</i> (F)		ND (M)
	<i>Barbus tyberinus sensus lato</i> (F)	Uranoscopidae	<i>Uranoscopus scaber</i> (M)
	<i>Barbus</i> sp. (F)	Xiphiidae	<i>Xiphias gladius</i> (M)
	<i>Carassius</i> sp. (F)	Zeidae	<i>Zeus faber</i> (M)
	<i>Cyprinus carpio</i> (F)	Class: Bivalvia	
	<i>Leuciscus idus</i> (F)	Cardiidae	ND (M)
	<i>Rutilus rutilus</i> (F)	Mytilidae	<i>Lithophaga lithophaga</i> (M)
	<i>Squalius cephalus</i> (F)		<i>Mytilus</i> sp. (M)
	<i>Tinca tinca</i> (F)	Ostreidae	<i>Ostrea</i> sp. (M)
Engraulidae	<i>Engraulis</i> sp. (M)	Pectinidae	<i>Pecten maximus</i> (M)
Esocidae	<i>Esox cisalpinus</i> (F)	Pharidae	<i>Ensis siliqua</i> (M)
	<i>Esox lucius</i> (F)	Pinnidae	<i>Pinna nobilis</i> (M)
	<i>Esox</i> sp. (F)	Spondylidae	<i>Spondylus gaederopus</i> (M)
Exocoetidae	<i>Cheilopogon heterurus</i> (M)	Veneridae	ND (M)
Haemulidae	<i>Plectorhinchus mediterraneus</i> (M)	Class: Cephalopoda	
Labridae	<i>Coris julis</i> (M)	Loliginidae	<i>Loligo</i> sp. (M)
	<i>Labrus viridis</i> (M)	Octopodidae	<i>Octopus vulgaris</i> (M)
	<i>Thalassoma pavo</i> (M)	Sepiidae	<i>Sepia officinalis</i> (M)
	<i>Symphodus</i> sp. (M)	Class: Echinoidea	
	<i>Symphodus tinca</i> (M)	Asteriidae	<i>Marthasterias glacialis</i> (M)
	ND (M)	Parechinidae	<i>Paracentrotus lividus</i> (M)
Lophiidae	<i>Lophius</i> sp. (M)	Class: Elasmobranchii	
Merluccidae	<i>Merluccius merluccius</i> (M)	Rajidae	<i>Raja clavata</i> (M)
Molidae	<i>Mola mola</i> (M)		ND (M)
Moronidae	<i>Dicentrarchus labrax</i> (C)	Torpedinidae	<i>Torpedo torpedo</i> (M)
Mugilidae	ND (C)	Triakidae	<i>Mustelus</i> sp. (M)
Mullidae	<i>Mullus</i> sp. (M)	Scyliorhinidae	<i>Scyliorhinus</i> sp. (M)
Muraenidae	<i>Muraena helena</i> (M)	Squalidae	<i>Squalus acanthias</i> (M)
Percidae	<i>Perca fluviatilis</i> (F)		<i>Squalus</i> sp. (M)
Pleuronectidae	ND (M)	Squatinae	<i>Squatina squatina</i> (M)

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Table S3 Continued.

Family	Taxa	Family	Taxa
Salmonidae	Coregoninae (F)	Class: Gastropoda	
	<i>Salmo trutta</i> (A)	Haliotidae	<i>Haliotis</i> sp. (M)
Sciaenidae	<i>Argyrosomus regius</i> (M)	Patellidae	<i>Patella</i> sp. (M)
	<i>Umbrina cirrosa</i> (M)	Class: Malacostraca	
Scombridae	<i>Sarda sarda</i> (M)	Astacidae	ND (F)
	<i>Scomber colias</i> (M)	Brachyura	ND (M)
	<i>Scomber scombrus</i> (M)	Calappidae	<i>Calappa</i> sp. (M)
	ND (M)	Caridea	ND (M)
	<i>Thunnus thynnus</i> (M)	Nephropidae	<i>Homarus gammarus</i> (M)
Scorpaenidae	<i>Scorpaena porcus</i> (M)	Majidae	<i>Maja</i> sp. (M)
	<i>Scorpaena scrofa</i> (M)	Palinuridae	<i>Palinurus elephas</i> (M)
	ND (M)	Potamidae	<i>Potamon fluviatile</i> (F)
Sebastidae	<i>Sebastes</i> sp. (M)	Scyllaridae	<i>Scyllarides latus</i> (M)
Serranidae	<i>Epinephelus</i> sp. (M)	Squillidae	<i>Squilla mantis</i> (M)
	<i>Serranus scriba</i> (M)	Class: Mammalia	
Soleidae	<i>Solea solea</i> (M)	Mustelidae	<i>Lutra lutra</i> (F)
Sparidae	<i>Sparus aurata</i> (M)	Class: Octocorallia	
	<i>Spondylusoma cantharus</i> (M)	Coralliidae	<i>Corallium rubrum</i> (M)
	<i>Boops boops</i> (M)	Class: Petromyzonti	
	<i>Diplodus sargus</i> (M)	Petromyzontidae	<i>Petromyzon marinus</i> (A)
	<i>Diplodus vulgaris</i> (M)	Class: Reptilia	
	<i>Diplodus</i> sp. (M)	Cheloniidae	<i>Caretta caretta</i> (M)
	<i>Lithognathus mormyrus</i> (M)		ND (M)

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