

The Trèmols herbarium (BC): an European herbarium of the end of the 19th century

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Supplementary figures and tables

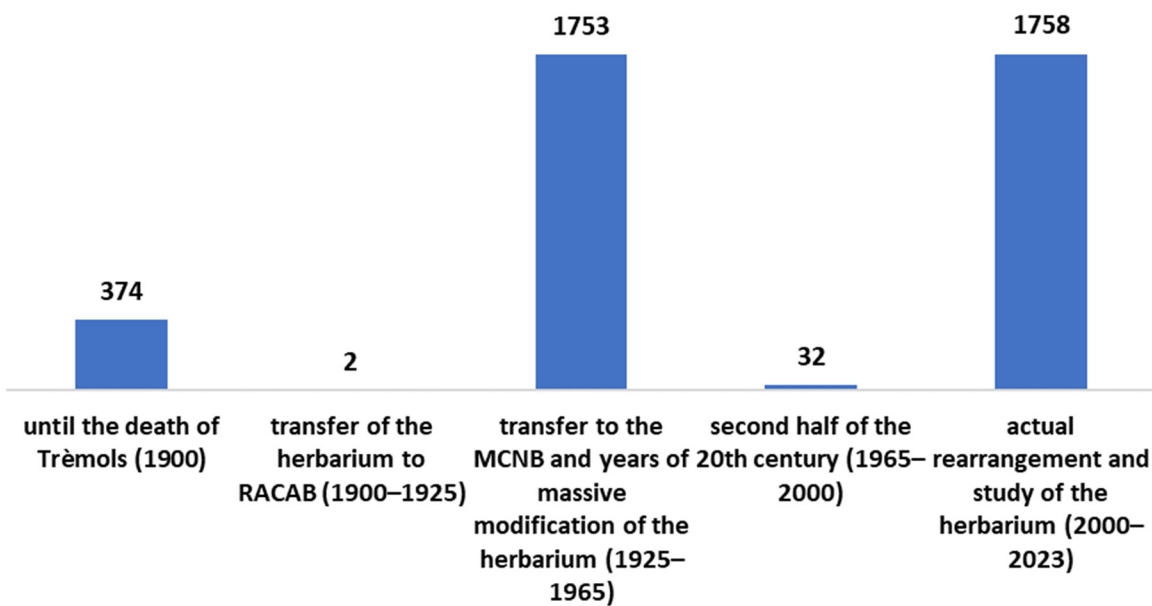


Figure S1. Distribution of the identifications of the Trèmols herbarium over the years.

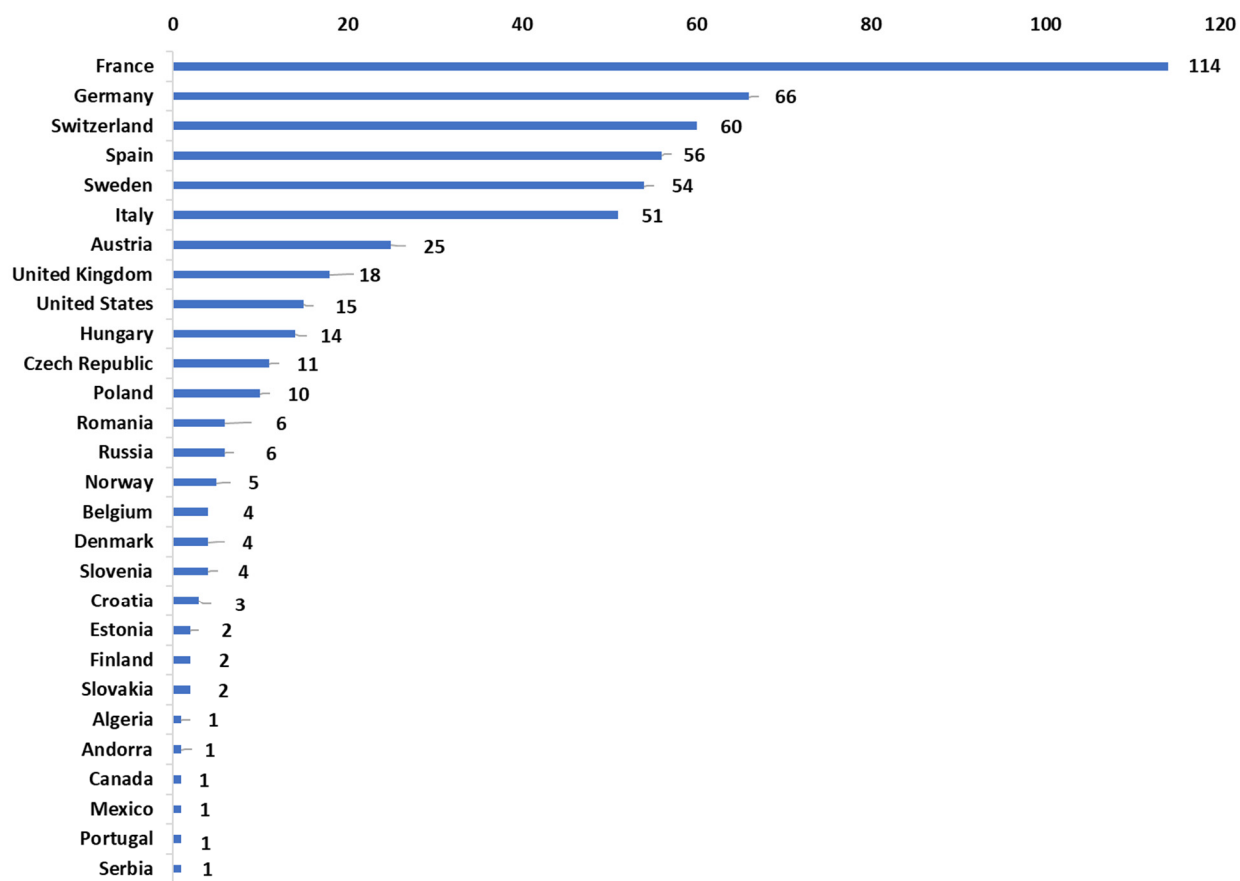


Figure S2. The collectors of the Trèmolis herbarium represented according to their nationality.

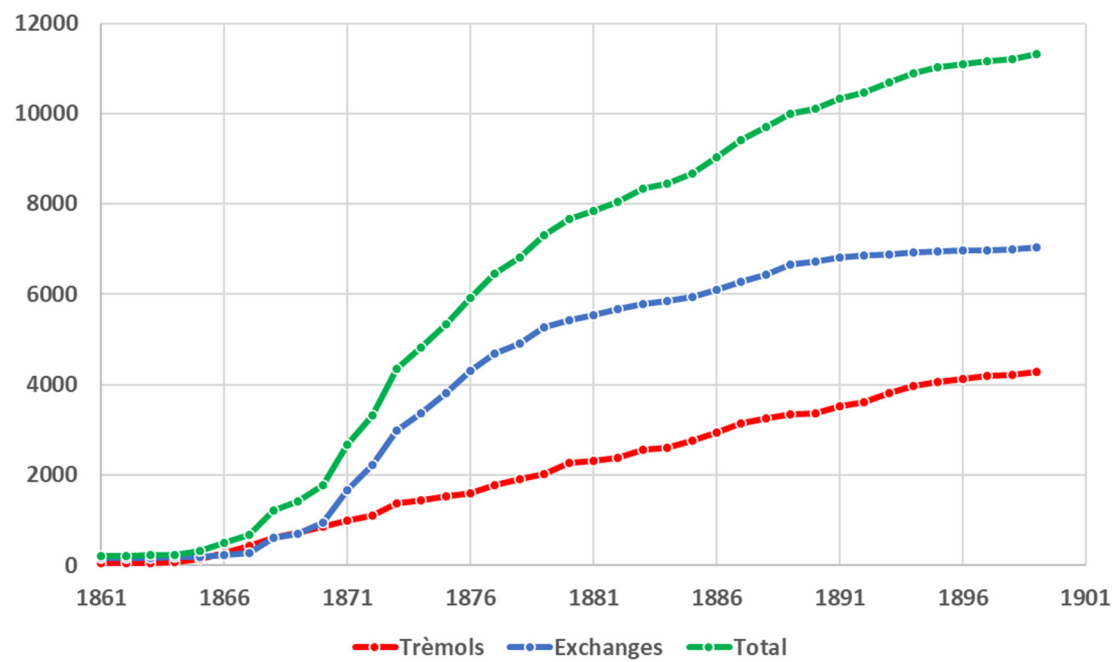


Figure S3. Growth curves of the Trèmols herbarium for the period 1861–1899 period. Specimens collected by Trèmols are shown in red and specimens from exchange activities are shown in blue.

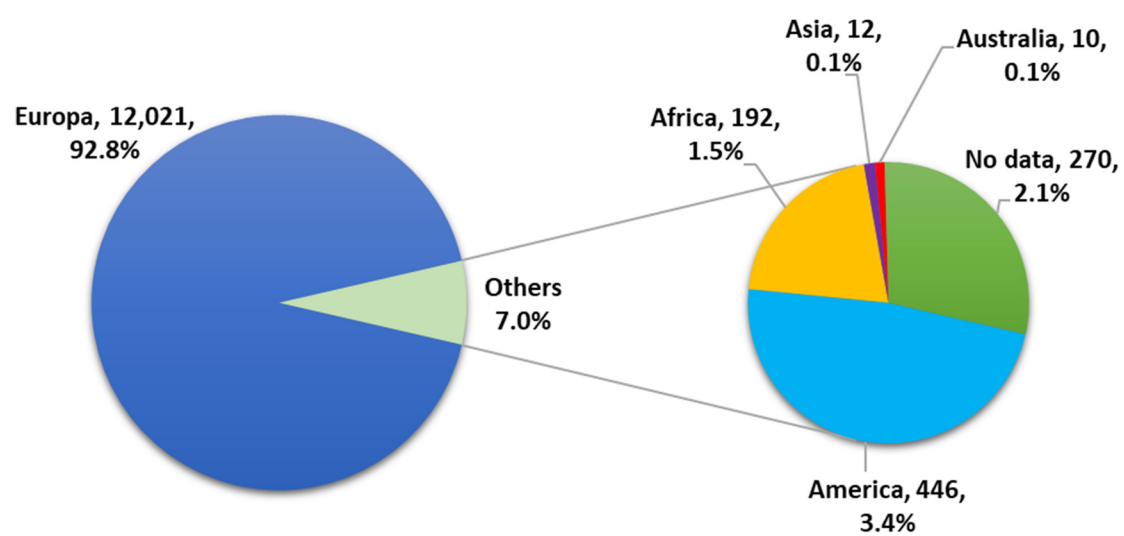


Figure S4. Continents of origin of the Trèmol herbarium specimens.

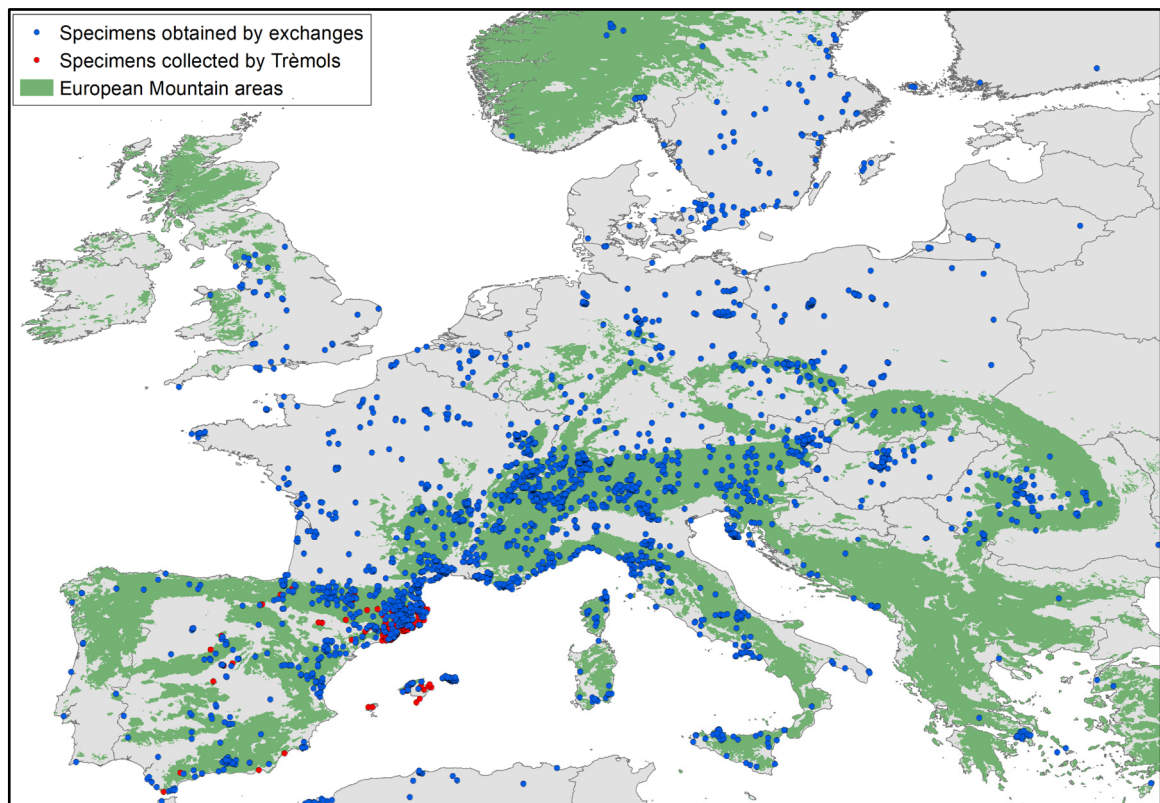


Figure S5. Localities of the specimens from the Trèmols herbarium from Europe. Specimens collected by Trèmols are shown by red dots and those obtained through exchanges are shown by blue dots. Green polygons indicate European mountain areas from <https://www.eea.europa.eu/en/datahub/datahubitem-view/48b6f8a7-9e5a-4865-bd05-59c29348b5fb> (accessed 25 October 2023).

Table S1. Botanists of the Trèmols herbarium with 10 or more identifications.

Reviewers	No. of identifications	Years of identifications	Original vols.	Cryptograms	56 vols.	<i>Hieracium</i>	Extra boxes
Laura Gavioli	1567	2011–2022	23	1	407	24	1112
Antoni Marcos	1500	1931–1962			1483		17
Frederic Trèmols	356	1872	13	3	223	31	86
Oriol de Bolòs	123	1947–1969			21	102	
Pere Montserrat	74	1948–1989			73		1
Ángel María Romo	72	1987–2020			4		68
Pius Font Quer	64	1945–1961			26		38
Pablo González	29	2019					29
Juan José Aldasoro & al.	24	1999			24		
Antoni de Bolòs	11	1961–1962			10		1
James Dele Olowokudejo	10	1979			10		

Table S2. Collectors who gathered plants over a period of more than 20 years, indicating their nationality, interval of gathering, number of specimens and ratio of specimens per year.

Collectors	Collector nationality	Interval of gathering	No. of years	No. of specimens	Ratio specimens/year
Frederic Trèmols Borrell (1831–1900)	Spanish	1848–1899	52	4849	92.3
Charles Auguste Edouard Cornaz (1825–1911)	French	1844–1892	49	103	2.1
Jean Odon Debeaux (1826–1910)	French	1854–1898	45	123	2.7
Alexander Carl Heinrich Braun (1805–1877)	German	1827–1870	44	10	0.2
Ferdinand Othon Wolf (1838–1906)	German	1851–1885	35	13	0.4
Henri Ferdinand van Heurck (1838–1909)	Belgian	1867–1899	33	323	9.8
Joseph Whipple Congdon (1834–1910)	American	1855–1887	33	292	8.8
Estanislao Vayreda Vila (1848–1901)	Spanish	1869–1899	31	208	6.7
Eugène Juglar (ca. 1840–?)	French	1868–1898	31	27	0.9
Manuel Mercader Luis (?–?)	Spanish	1866–1895	30	8	0.3
Jean Michel Gandoger (1850–1926)	French	1867–1895	29	157	5.4
Josep Cuffí Pujol (1843–?)	Spanish	1870–1898	29	12	0.4
Eugène-Laurent Berher (1822–1900)	French	1870–1896	27	53	2.0
Francisco Loscos Bernal (1823–1886)	Spanish	1861–1886	26	129	5.0
Juan Ignacio Puiggarí (1823–1900)	Spanish	1857–1882	26	105	4.0
Jaume Pujol Mercè (1852–1895)	Spanish	1872–1897	26	18	0.7
Baptiste Jacob (1830–1918)	Swiss	1871–1895	25	218	8.7
Josef Franz Freyn (1845–1903)	Czech	1870–1894	25	172	6.9
Hans Siegfried (1837–1903)	Swiss	1867–1891	25	111	4.4
Richter Ludwig (1844–1917)	Hungarian	1870–1893	24	171	7.1
Carlo Pietro Stefano Sommier (1848–1922)	Italian	1870–1893	24	128	5.3
Juan Texidor Cos (1836–1885)	Spanish	1865–1888	24	26	1.1
Louis Charles Edmond Mandon (1856–1910)	French	1877–1899	23	110	4.8
Marie Clément Gaston Gautier (1841–1911)	French	1865–1887	23	109	4.7
Fritz Tripet (1843–1907)	Swiss	1869–1891	23	63	2.7
Anatole Guillon (1819–1908)	French	1864–1886	23	32	1.4
Joseph Gabriel Marie Hervier-Basson (1846–1922)	French	1871–1893	23	17	0.7
Theodor Heinrich Hermann de Heldreich (1822–1902)	German	1877–1899	23	6	0.3
George Mathias von Martens (1788–1872)	German	1813–1835	23	6	0.3
Jules Ami Sandoz (1857–1928)	American	1875–1896	22	114	5.2
Alphonse Autheman (1832–1913)	French	1871–1892	22	32	1.5

Henri Bordère (1825–1889)	French	1869–1889	21	217	10.3
Rudolf Hülsen (1837–1912)	German	1866–1886	21	141	6.7
Jozsef Barth (1833–1915)	Romanian	1870–1890	21	122	5.8
Louis Favrat (1827–1893)	Swiss	1870–1890	21	38	1.8
Claude-Albert Gérard (1837–1905)	French	1873–1893	21	35	1.7
Rosine Masson (1808–1891)	Swiss	1869–1889	21	33	1.6
A. Godet (?–?)	French	1872–1892	21	9	0.4
Ferdinand Wilhelm Werner Bertram (1835–1899)	German	1867–1887	21	6	0.3
Karl Gustav Adolf Winkler (1810–1893)	German	1842–1862	21	2	0.1
Henry (Enrico) Groves (1835–1891)	English	1869–1875	20	107	4.0
Ferdinand Albert Heidenreich (1819–1901)	Russian	1865–1884	20	40	2.0
Jakob Jäggi (1829–1894)	Swiss	1870–1889	20	30	1.5
Olof Theodor Brown (1845–1893)	Swedish	1871–1890	20	7	0.4

Table S3. Collection countries with more than 25 specimens in the Trèmols herbarium; the number of specimens and their percentage is indicated.

Country	No. of specimens	Percentage of specimens (%)
Spain	6013	46.4%
France	1919	14.8%
Italy	1088	8.4%
Switzerland	875	6.8%
United States of America	398	3.1%
Hungary	350	2.7%
Austria	321	2.5%
Germany	239	1.8%
Poland	234	1.8%
Romania	187	1.4%
Sweden	180	1.4%
Algeria	162	1.2%
Croatia	137	1.1%
Czechia	92	0.7%
Bolivia	57	0.4%
Russia	52	0.4%
United Kingdom	49	0.4%
Norway	44	0.3%
Slovakia	41	0.3%
Belgium	35	0.3%
Cuba	30	0.2%
Slovenia	30	0.2%
Greece	25	0.2%

Table S4. Vascular plant families of the Trèmols herbarium with more than 100 specimens.
Number of taxa (including genus, hybrids, species and infraspecies levels) and number of species are indicated.

Families	No. of specimens	Percentage of specimens (%)	No. of taxa	Percentage of taxa (%)	No. of species	Percentage of species (%)
Fabaceae	2457	19.0%	538	12.2%	471	12.4%
Asteraceae	1026	7.9%	472	10.7%	3394	10.3%
Rosaceae	1023	7.9%	319	7.3%	284	7.4%
Caryophyllaceae	1003	7.7%	310	7.1%	268	7.0%
Brassicaceae	912	7.0%	326	7.4%	294	7.7%
Poaceae	836	6.5%	312	7.1%	277	7.3%
Cyperaceae	567	4.4%	265	6.0%	248	6.5%
Ranunculaceae	556	4.3%	203	4.6%	181	4.7%
Lamiaceae	319	2.5%	73	1.7%	62	1.6%
Caprifoliaceae	277	2.1%	86	2.0%	79	2.1%
Plantaginaceae	267	2.1%	82	1.9%	65	1.7%
Cistaceae	199	1.5%	64	1.5%	50	1.3%
Geraniaceae	196	1.5%	54	1.2%	52	1.4%
Orchidaceae	195	1.5%	69	1.6%	59	1.5%
Violaceae	193	1.5%	62	1.4%	51	1.3%
Papaveraceae	189	1.5%	50	1.1%	46	1.2%
Malvaceae	164	1.3%	53	1.2%	44	1.2%
Onagraceae	139	1.1%	28	0.6%	24	0.6%
Linaceae	131	1.0%	35	0.8%	31	0.8%
Juncaceae	127	1.0%	45	1.0%	43	1.1%
Hypericaceae	123	1.0%	45	1.0%	40	1.0%
Boraginaceae	117	0.9%	28	0.6%	21	0.6%

Table S5. The 28 taxa from the Trèmols herbarium that are cited in the Catalan Red Book [55] according to the IUCN threat categories, their endemism status and the number of specimens.

The accepted name according to POWO [37] is also indicated when it is different.

Taxon according the Catalan Red Book	IUCN category	Endemic status	No. of specimens
<i>Armeria ruscinonensis</i>	LC	YES	1
<i>Astragalus austriacus</i>	VU	NO	1
<i>Cardamine amara</i> subsp. <i>pyrenaea</i>	LC	YES	1
<i>Cardamine crassifolia</i>	LC	YES	1
<i>Cerastium pyrenaicum</i> (≡ <i>Cerastium latifolium</i> subsp. <i>pyrenaicum</i>)	LC	YES	1
<i>Delphinium montanum</i>	VU	YES	1
<i>Dianthus multiceps</i>	LC	YES	2
<i>Dianthus pyrenaicus</i> subsp. <i>attenuatus</i>	LC	YES	9
<i>Dianthus seguieri</i> subsp. <i>requienii</i>	LC	YES	15
<i>Dianthus vigoii</i>	LC	YES	1
<i>Erodium rupestre</i>	LC	YES	5
<i>Erysimum ruscinonense</i> (= <i>Erysimum collisparsum</i>)	LC	YES	10
<i>Halimium halimifolium</i> subsp. <i>halimifolium</i> (= <i>Cistus halimifolius</i>)	VU	NO	2
<i>Hieracium cordifolium</i> (= <i>Hieracium umbellatum</i> subsp. <i>umbellatum</i>)	LC	YES	3
<i>Hieracium cordatum</i>	LC	YES	5
<i>Hieracium gouanii</i>	LC	YES	1
<i>Hieracium sonchoides</i>	LC	YES	1
<i>Hippuris vulgaris</i>	CR	NO	1
<i>Lomelosia pulsatilloides</i> subsp. <i>macropoda</i>	LC	YES	1
<i>Maresia nana</i>	VU	NO	3
<i>Nymphaea alba</i>	EN	NO	1
<i>Oplismenus undulatifolius</i>	CR	NO	2
<i>Polygala vayredae</i>	VU	YES	1
<i>Prunus lusitanica</i> subsp. <i>lusitanica</i>	VU	NO	1
<i>Ranunculus ruscinonensis</i>	LC	YES	2
<i>Rumex hydrolapathum</i>	CR	NO	1
<i>Silene sennenii</i>	EN	YES	1
<i>Xatardia scabra</i>	LC	YES	1
Total general			75