

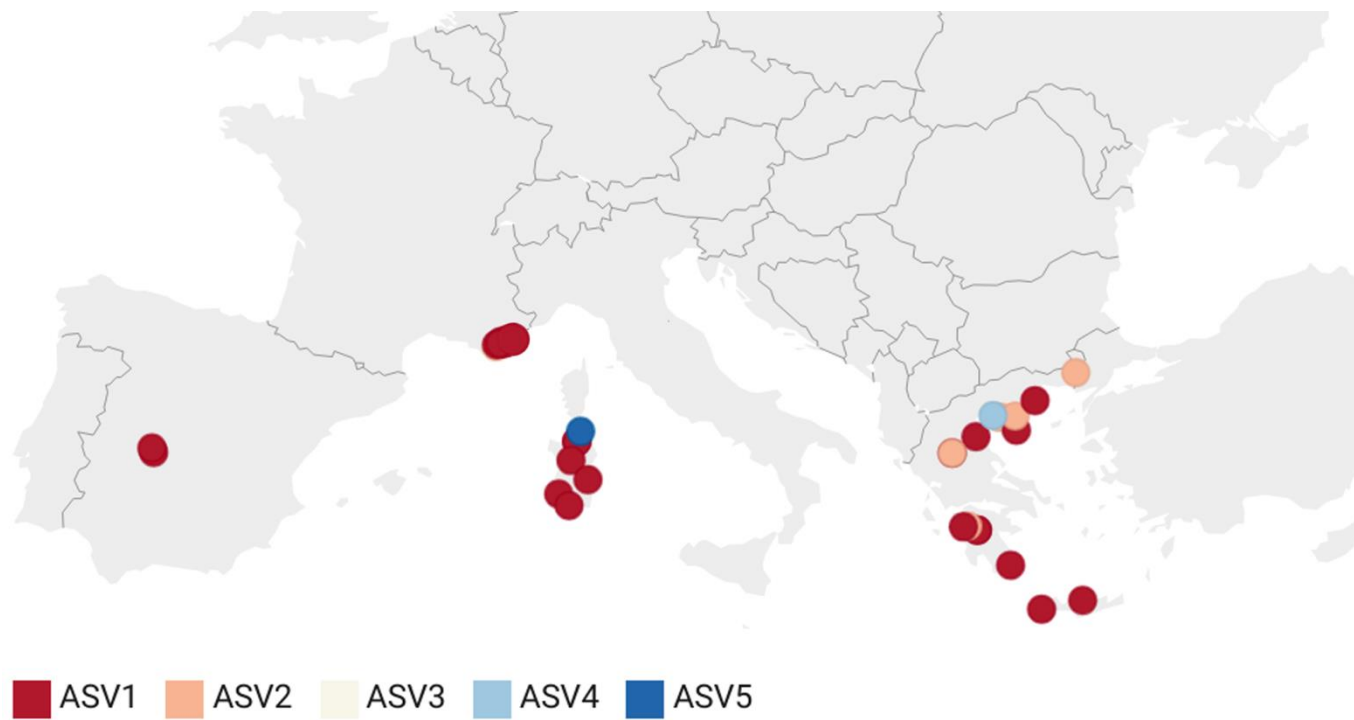
**Table S1.** Sequences from GenBank included in the phylogenetic analyses with accession numbers, lichen-forming fungi, geographical region and reference

GenBank	Species name	Mycobiont	Geographic origin	Reference
FJ418565	<i>Trebouxia lynnae</i>	<i>Ramalina farinacea</i>	Spain	Gasulla et al. 2010
KM020046	<i>Lobosphaera incisa</i>	Non lichenized	Austria	Karsten et al. 2005
KR952330	<i>Vulcanochloris guanchorum</i>	<i>Stereocaulon vesuvianum</i>	Spain (Canary Islands)	Vančurová et al. 2015
KY981643	<i>Myrmecia israelensis</i>	<i>Psora decipiens</i>	Spain	Moya et al. 2018
KY981645	<i>Myrmecia israelensis</i>	<i>Psora saviczii</i>	Spain	Moya et al. 2018
KY981647	<i>Myrmecia israelensis</i>	<i>Psora decipiens</i>	Spain	Moya et al. 2018
KY981651	<i>Myrmecia israelensis</i>	<i>Psora decipiens</i>	Czech Republic	Moya et al. 2018
KY981653	<i>Myrmecia israelensis</i>	<i>Psora decipiens</i>	Spain	Moya et al. 2018
KY981655	<i>Myrmecia israelensis</i>	<i>Psora decipiens</i>	Spain	Moya et al. 2018
KY981657	<i>Myrmecia israelensis</i>	<i>Psora decipiens</i>	Germany	Moya et al. 2018
KY981659	<i>Myrmecia israelensis</i>	<i>Psora decipiens</i>	Spain (Canary Islands)	Moya et al. 2018
KY981662	<i>Myrmecia israelensis</i>	<i>Clavascidium</i> sp.	Spain	Moya et al. 2018
KY981668	<i>Myrmecia israelensis</i>	<i>Clavascidium</i> sp.	Spain	Moya et al. 2018
KY981669	<i>Myrmecia israelensis</i>	Culture (UTEX 1181)	—	Moya et al. 2018
KY981670	<i>Myrmecia israelensis</i>	<i>Placidium</i> sp.	Czech Republic	Moya et al. 2018
KY981671	<i>Myrmecia israelensis</i>	<i>Psora decipiens</i>	Croatia	Moya et al. 2018
KY981674	<i>Myrmecia israelensis</i>	<i>Psora decipiens</i>	Spain	Moya et al. 2018
KY981679	<i>Myrmecia israelensis</i>	<i>Placidium pilosellum</i>	Slovakia	Moya et al. 2018
KY981681	<i>Myrmecia israelensis</i>	<i>Placidium pilosellum</i>	Cyprus	Moya et al. 2018
KY981682	<i>Myrmecia israelensis</i>	<i>Psora decipiens</i>	Slovakia	Moya et al. 2018
KY981683	<i>Myrmecia israelensis</i>	<i>Psora</i> sp.	Slovakia	Moya et al. 2018
KY981684	<i>Myrmecia israelensis</i>	<i>Placidium</i> sp.	Slovakia	Moya et al. 2018
KY981685	<i>Myrmecia israelensis</i>	<i>Placidium</i> sp.	Czech Republic	Moya et al. 2018
KY981686	<i>Myrmecia israelensis</i>	<i>Placidium</i> sp.	Cyprus	Moya et al. 2018
KY981687	<i>Myrmecia israelensis</i>	<i>Psora decipiens</i>	Cyprus	Moya et al. 2018
KY981688	<i>Myrmecia israelensis</i>	<i>Placidium</i> sp.	Cyprus	Moya et al. 2018
KY981693	<i>Myrmecia israelensis</i>	<i>Psora decipiens</i>	Slovakia	Moya et al. 2018
KY981694	<i>Myrmecia israelensis</i>	<i>Placidium</i> sp.	Slovakia	Moya et al. 2018
KY981695	<i>Myrmecia israelensis</i>	<i>Psora decipiens</i>	Turkey	Moya et al. 2018
KY981696	<i>Myrmecia israelensis</i>	<i>Psora decipiens</i>	Germany	Moya et al. 2018
KY981697	<i>Myrmecia israelensis</i>	<i>Psora decipiens</i>	Germany	Moya et al. 2018
KY981700	<i>Myrmecia israelensis</i>	<i>Placidium</i> sp.	Slovakia	Moya et al. 2018

MT581398	<i>Myrmecia israelensis</i>	<i>Acarospora nodulosa</i>	Spain	Moya et al. 2020
OL625167	<i>Myrmecia</i> sp.	<i>Cladonia</i> sp.	Spain (Canary Islands)	Vančurová et al. 2021
ON620065	<i>Myrmecia</i> sp.	Non lichenized	Argentina	Cometto et al. 2022
ON620066	<i>Myrmecia</i> sp.	Non lichenized	Argentina	Cometto et al. 2022
ON620067	<i>Myrmecia</i> sp.	Non lichenized	Argentina	Cometto et al. 2022
ON620068	<i>Myrmecia</i> sp.	Non lichenized	Argentina	Cometto et al. 2022

**Table S2.** Specimens used in the untraestructure study.

<b>Taxa</b>	<b>Locality</b>	<b>Collector &amp; Collection</b>
<i>Cladonia humilis</i> s.lat	Spain, Toledo, Belvis de la Jara, open forest of <i>Quercus</i> <i>rotundifolia</i> , 39°44'35.5"N 4°58'10.4"W, 13 Oct 2018	R. Pino-Bodas s.n. (MACB 124252)
<i>Cladonia foliacea</i>	Spain, Toledo, Belvis de la Jara, open forest of <i>Quercus</i> <i>rotundifolia</i> , 39°44'35.5"N 4°58'10.4"W, 13 Oct 2018	R. Pino-Bodas s.n. (MACB 124248)
<i>Cladonia subturgida</i>	Spain, Toledo, Belvis de la Jara, open forest of <i>Quercus</i> <i>rotundifolia</i> , 39°44'35.5"N 4°58'10.4"W, 13 Oct 2018	R. Pino-Bodas s.n. (MACB 124249)



**Figure S1.** Distribution of the main photobiont ASVs in the Mediterranean region