NAT. CROAT. | VOL. 31 | No 2 | 375-391 | ZAGREB | December 30, 2022

original scientific paper / izvorni znanstveni rad
DOI 10.20302/NC.2022.31.27

THE FLORA OF THREE ISLETS IN THE KORČULA ARCHIPELAGO (SOUTHEASTERN ADRIATIC)

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Ruščić, M., Čorić, B. & Marinović, N.: The flora of three islets in the Korčula archipelago (southeastern Adriatic). Nat. Croat., Vol. 31., No. 2, 375-391, 2022, Zagreb.

The flora of three small islets located in the Korčula Archipelago was investigated on several occasions during 2020. In all, 105 plant taxa were recorded, of which 101 are angiosperms, 3 gymnosperms and with 1 fern. The total flora of the islets is distributed in 48 families. The families with the highest number of taxa are *Poaceae* (12.38%) and *Asteraceae* (10.48%), followed by *Lamiaceae* (7.62%) and *Fabaceae* (5.71%). The most common life forms are therophytes (31.43%), hemicryptophytes (27.62%) and phanerophytes (19.05%). The largest number of plant taxa is accounted for by the Mediterranean floral element (60.95%), followed by the South European (20.00%) In all, three endemic, four endangered and seven strictly protected taxa were recorded. Endemics are *Carduus micropterus* (Borbás) Teyber ssp. *micropterus*, *Vincetoxicum hirundinaria* Medik. ssp. *adriaticum* (Beck) Markgr and *Limonium dictyophorum* (Tausch) Degen. All recorded endemic taxa belong to the group Illyrian-Adriatic endemic plants. Endangered taxa are *Desmazeria marina* (L.) Druce, *Elymus pycnathus* (Godr.) Melderis and *Narcissus tazetta* L. Strictly protected taxa include *Chenopodium murale* L. and *Posidonia oceanica* (L.) Delile. The invasive species *Conyza canadensis* (L.) Cronquist and *Euphorbia prostrata* Aiton have been recorded in the flora of the islet of Majsan.

Keywords: Adriatic islets, flora, diversity, NE Mediterranean, rocky coastal belt

Ruščić, M., Čorić, B. & Marinović, N.: Flora tri otočića u Korčulanskom arhipelagu (jugoistočni Jadran). Nat. Croat., Vol. 31., No. 2, 375-391, 2022, Zagreb.

Flora tri mala otočića u Korčulanskom arhipelagu istraživana je nekoliko puta tijekom 2020. godine. Zabilježeno je 105 vrsta i podvrsta, od kojih 101 pripada kritosjemenjačama, 3 golosjemenjačama i jedna papratnjačama. Ukupna flora otočića je raspoređena u 48 porodica. Najveći broj svojti pripada porodicama *Poaceae* (12,38 %) i *Asteraceae* (10,48%), zatim *Lamiaceae* (7,62%) i *Fabaceae* (5,71%). Najzastupljeniji životni oblici su terofiti (31,43%), hemikriptofiti (27,62%) i fanerofiti (19,05%). Najveći broj vrsta pripada mediteranskom (60,95%) i južnoeuropskom (20,00%) flornom elementu. Utvrđene su tri endemične, četiri ugrožene i sedam strogo zaštićenih svojti. Endemi uključuju *Carduus micropterus* (Borbás) Teyber ssp. *micropterus*, *Vincetoxicum hirundinaria* Medik. ssp. *adriaticum* (Beck) Markgr i *Limonium dictyophorum* (Tausch) Degen. Sve zabilježene endemične svojte pripadaju ilirsko-jadranskim endemskim biljkama. Ugrožene svojte su *Desmazeria marina* (L.) Druce, *Elymus pycnathus* (Godr.) Melderis i *Narcissus tazetta* L. Od strogo zaštićenih svojti ističu se *Chenopodium murale* L. i *Posidonia oceanica* (L.) Delile. U flori otočića Majsana zabilježene su invazivne vrste *Conyza canadensis* (L.) Cronquist i *Euphorbia prostrata* Aiton.

Ključne riječi: flora, jadranski otočići, Mediteran, raznolikost, stjenoviti obalni pojas

INTRODUCTION

Islands host a remarkable portion of global biological richness (Whittaker & Fernández-Palacios, 2007) although they represent only 5.3 % of the global landmass (Weigelt *et al*., 2013). The Mediterranean Sea is one of the regions of the world with

the most islands and archipelagos. These islands represent an important component of Mediterranean biodiversity, because they have particular environmental and biotic conditions (Médail, 2013, 2017). The high level of biodiversity is due to past geographic and climatic events combined with current environmental heterogeneities, as well as the long-lasting human influence (Blondel, 2008).

After the Greek archipelago, the eastern Adriatic coast is second in terms of the number of islands in the Mediterranean Sea (n = 1246). Vascular vegetation is present on 79 islands of more than 1 km^2 and 653 small islands and islets (Nikolić *et al*., 2008). Using the species-area relationship analysis (SAR), Nikolić *et al.* (2008) estimated that the plant species richness for 106 Croatian islands amounts to 1807 species. This is not the total number of species, as many islands and islets have not yet been floristically studied. Due to the increased awareness of the importance of exploring and protecting such areas, research into the flora of islands and islets in the Adriatic basin has become more frequent in recent decades (Jasprica *et al*., 2006; Nikolić *et al*., 2008; Jasprica & Ruščić, 2013; Milović *et al*., 2013; Jeričević *et al*., 2014; Pandža & Milović, 2015; Jasprica *et al*., 2015; Milović *et al*., 2016; Justić *et al*., 2021). Included among unexplored islands are the three islets of the Korčula archipelago that are the subject of this study. Previously, several botanical studies were carried out on some other islets in the Korčula archipelago (Bogdanović & Brullo, 2015; Jasprica & Milović, 2016; Jasprica *et al*., 2018).

The aim of this study was to investigate the vascular flora of three islets in the Korčula archipelago in order to contribute to the knowledge of plant diversity on the Adriatic islets. The data obtained were also used to analyze the life forms and floral elements and to determine the occurence of endangered, endemic, protected and invasive taxa.

STUDY AREA

The three islets of Majsan, Majsanić and Gojak are located in the Pelješac Channel, 2 km south of the settlement Orebić on the Pelješac peninsula and 5 km east of the town of Korčula (Tab. 1). The islets belong to the Eastern Adriatic Basin and are a part of the Korčula archipelago, a group of 19 islands and islets. They have a low and rocky coastline, which is particularly significant for the islet of Majsanić, which has the lowest elevation, and is occasionally washed over by the sea. Geomorphologically, most of the island of Korčula consists of Cretaceous and Jurassic limestones and limestones with dolomites (Krklec *et al*., 2011). The researched islets also have limestones as geological substrate on which brown soils (Calcocambisol) predominate (Vukadinović, 2019).

The islets are not inhabited, but in the summer months they are often a destination for tourists on their excursions. Frequently visited is the islet of Majsan, that has a sheltered bay on the west coast suitable for anchoring sailboats. There is also an archeological site on the islet, with the ruins of an ancient villa from the 4th century. This ancient complex was later inhabited by a small Christian community, who put the residential buildings found to reigious use and built the Church of St. Maxmillian, after whom the islet was named (Fisković, 1981). The islet of Majsanić, a rocky ridge with sparse vegetation, was a frequent site of shipwrecks in ancient times, and the remains of amphorae can still be found around the islet.

Tab. 1. Basic information about the surface area, altitude and geographical position of the islets (WGS84 – World Geodetic System 1984; HTRS96 – Croatian Terrestrial Reference System 1996)

ISLET	AREA	ALTITUDE	WGS84	HTRS96
Majsan	0.156 km^2	35 m	42°57′32″ N 17°11′31″ E	X= 556463 Y= 4757930
Majsanić	0.003466 km^2	3 m	42°57′39″ N 17°11′41″ E	X= 556695 Y= 4758140
Gojak	0.04 km^2	14 m	42°57′25″ N 17°12′05″ E	X= 557235 Y= 4757697

According to Köppen's climate classification, the wider area of the island of Korčula, including the islets studied, has a Mediterranean climate (Csa) with mild winters and hot summers (Šegota & Filipčić, 2003). Most precipitation falls in the colder season. The reference meteorological station is Korčula, located on the east coast of the island. The average annual air temperature is 16.8 °C, the warmest month is July with an average value of 25.9 °C and the coldest month is February with an average of 9.1 °C. The annual average precipitation is about 946 mm y^{-1} on the east coast. The most common wind is the sirocco, a southeast wind (SE) that brings warm and humid air from the Mediterranean. In the warmer season, the maestral northwest (NW) wind is very common (Krklec *et al*., 2011).

The studied islets are part of the European Ecological Network of sites important for birds (site code HR1000036 Central Dalmatian islands and the Pelješac peninsula, Official Gazette of the Republic of Croatia, 2019). As a part of the island of Korčula, the islets are also included to the Important Plant Areas in Croatia (Jasprica, 2010).

Phytogeographically the islets belong to the steno-Mediterranean vegetation zone of the alliance *Oleo-Ceratonion siliquae* Br.-Bl. ex Guinochet et Drouineau 1944 (Mucina *et al*., 2016; Škvorc *et al*., 2017).

MATERIALS AND METHODS

The research was carried out during 2020 in different seasons (spring: April 24 visit to Majsan islet, April 25 visit to Majsanić and Gojak islets, May 30 visit to Majsan islet, May 31 visit to Majsanić and Gojak islets; summer: June 26 visit to Majsan islet, June 27 visit to Majsanić and Gojak islets, July 3 visit to Majsan islet and July 4 visit to Majsanić and Gojak islets; autumn: September 26 visit to the islet of Majsan, September 27 visit to the islets of Majsanić and Gojak, October 24 visit to the islet of Majsan, October 25 visit to the islets of Majsanić and Gojak), and consisted of fieldwork at sites geocoded with a GPS device with an accuracy of ± 5 to ± 50 meters. In all, 27 localities were investigated on all three islets, 12 on Majsan, 6 on Majsanić and 9 on Gojak (Fig. 1).

Plant taxa were determined using standard keys and books: Horvatić (1954), Javorka & Csápody (1975), Horvatić & Trinajstić (eds.) (1967-1981), Trinajstić (ed.) (1975a), Tutin *et al.* (1968-1980, 1993), Pignatti (1982), Domac (1994), Kovačić *et al*. (2008), Nikolić (2019, 2020a, 2020b, 2020c). The nomenclature of plant taxa is determined using the Flora Croatica Database, FCD (Nikolić, 2022a).

Plant life forms were denoted according to Horvat (1949) and Pignatti (1982) based on the classification of Raunkiaer (1934). The following abbreviations were used for life forms: **P** (phanerophytes), **Ch** (chamaephytes), **H** (hemicryptophytes), **T** (therophytes), and **G** (geophytes).

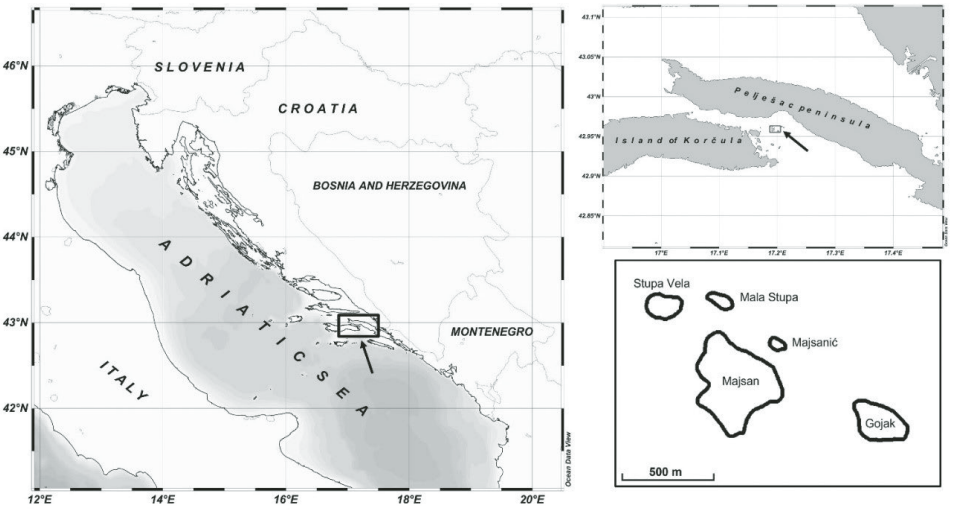

Fig. 1. Geographical position of the Majsan, Majsanić and Gojak islets in south Croatia, eastern Adriatic

Floral elements were listed according to Horvatić (1963b), Horvatić *et al.* (1967/1968) and Pignatti (1982). The following abbreviations were used:

1. MEDITERRANEAN FLORAL ELEMENT

A. Circum-Mediterranean plants – **ME-circ**

B. West Mediterranean plants – **ME-west**

C. East Mediterranean plants – **ME-east**

D. Illyrian – Mediterranean plants

a) Illyrian South European plants – **ME-ilseu**

b) Illyrian Adriatic plants:

1. Illyrian Adriatic endemic plants – **ME-ilade**

2. Illyrian Apennine plants – **ME-ilape**

E. Mediterranean Atlantic plants – **ME-atl**

F. European Mediterranean plants – **ME-eu**

G. Mediterranean Pontic plants – **ME-po**

2. ILLYRIAN-BALCANIC FLORAL ELEMENT

A. Illyrian-Bakanic endemic plants – **ILBA-end**

B. Balkanic-Apennine plants -**ILBA-baap**

3. SOUTH EUROPEAN FLORAL ELEMENT

A. South European Mediterranean plants – **SEU-me**

B. South European Pontic plants – **SEU-po**

C. South European Atlantic plants – **SEU-atl**

D. South European Mountain plants – **SEU-mo**

E. South European Continental plants -**SEU-co**

4. SOUTHEAST EUROPEAN FLORAL ELEMENT – **SEEU**

5. EAST EUROPEAN-PONTIC FLORAL ELEMENT – **EEUPO**

6. EUROPEAN FLORAL ELEMENT – **EURO**

7. CENTRAL EUROPEAN FLORAL ELEMENT – **CEU**

8. EURASIAN FLORAL ELEMENT – **EUAS**

9. CIRCUM-HOLARCTIC SPREAD PLANTS – **CIHO**

10. WIDESPREAD PLANTS – **WISP**

11. CULTIVATED AND ADVENTITIOUS PLANTS – **CUAD**

Endemic species were determined according to Nikolić (2022a). The endangerment categories of taxa were determined according to the Red Book of the Vascular Flora of Croatia (Nikolić & Topić, 2005; Nikolić, 2020b) and are marked with the corresponding IUCN abbreviations: CR (Critically Endangered), EN (Endangered), VU (Vulnerable), NT (Near Threatened), DD (Data Deficient), LC (Least Concern) (IUCN, 2022). Strictly protected taxa were determined according to the Ordinance on Strictly Protected Species (Anonymous, 2013). Invasive plant taxa (IAS) are denoted according to Boršić *et al*., 2008; Nikolić *et al*., 2014 and Nikolić, 2020c.

Habitats are also listed in App. 1 and Tabs 1 and 2, and are marked with letters as follows:

a –rocky dry grasslands

b – along the seashore (rocky and gravel shores)

c – in macchia

d – garrigue

e – trampled habitats

f – ruderal habitats

g – walls (stone walls, wall cracks, etc.)

h – seagrass

RESULTS AND DISCUSSION

Taxonomical analysis

Altogether, 105 taxa of vascular plants within 48 families were recorded on Majsan, Majsanić and Gojak islets (App. 1). The highest number of taxa was recorded on the islet of Gojak (72), followed by Majsan (65) and Majsanić (18).

The islet of Majsan is mostly covered with forest and macchia, while rocky grasslands and coastal habitats with halophytes are less common. Unlike Majsan, Majsanić and Gojak mostly feature rocky grasslands and a coastal rocky belt by the sea with halophytes. Majsanić is the smallest in terms of area, it has sparse vegetation that is completely exposed to salinization due to its low elevation, which limits the number of taxa that can survive there. Although Majsan is the largest, it has a relatively small number of taxa compared to other similarly sized or even smaller islets in the Adriatic.

For several uninhabitated Dalmatian islets, Pandža & Milović (2015) have found that the richness of islets' flora may be more influenced by the diversity of habitats than by the size of the islet . This can also be seen in the example of the islet of Gojak, which is smaller than Majsan, but has a larger number of taxa. By comparing the total number of taxa on the islet of Gojak with other Dalmatian islets of similar size, in some cases the coincidence is visible, e.g. on Samograd (Pandža, 2003), while in other cases there are certain differences. For example, the islet of Supetar has an area of 0.039 km^2 and 173 recorded taxa (Jasprica & Ruščić, 2013) and the islet of Sv. Andrija has an area of 0.036 km^2 and 160 recorded taxa (Jasprica *et al.*, 2006). This is more than twice as many recorded taxa as on the islet of Gojak. After studying the flora of several islets in the eastern Adriatic, Pandža *et al*. (2011) offered the reason for this discrepancy, that may be related to human influence, as they have found that some islets with pronounced anthropogenic influence have higher number of taxa in the flora than islets of similar size without human influence. However, in order to determine a positive correlation between these findings, it would be necessary to conduct research on a larger sample of islets.

The most common taxa in the flora of the studied islets belong to the angiosperms (96.20%), with 71,43% being dicotyledons and 24.76% monocotyledons. Gymnosperms are much less represented (2.86%), and ferns are the least common (0.95%) (Tab. 2). The proportion of monocotyledons and dicotyledons is consistent with the proportion of these taxa in some other Dalmatian islets (Tab. 3) .

The most abundant families were *Poaceae* (12.38%) and *Asteraceae* (10.48%) followed by *Lamiaceae* (7.62%) and *Fabaceae* (5.71%), which is to be expected since they are the most adapted to the Mediterranean climate (Figure 2). Taxa of these families also mostly prevail in the flora of some other south Adriatic islets such as Badija (Barčić, 1974; Jasprica & Milović, 2016), Supetar (Jasprica & Ruščić, 2013), Gospin Škoj, Srednjak and Goljak (Jasprica *et al*., 2015), Sveti Andrija (Jasprica *et al*., 2016), Vrnik (Jasprica *et al*., 2018), etc.

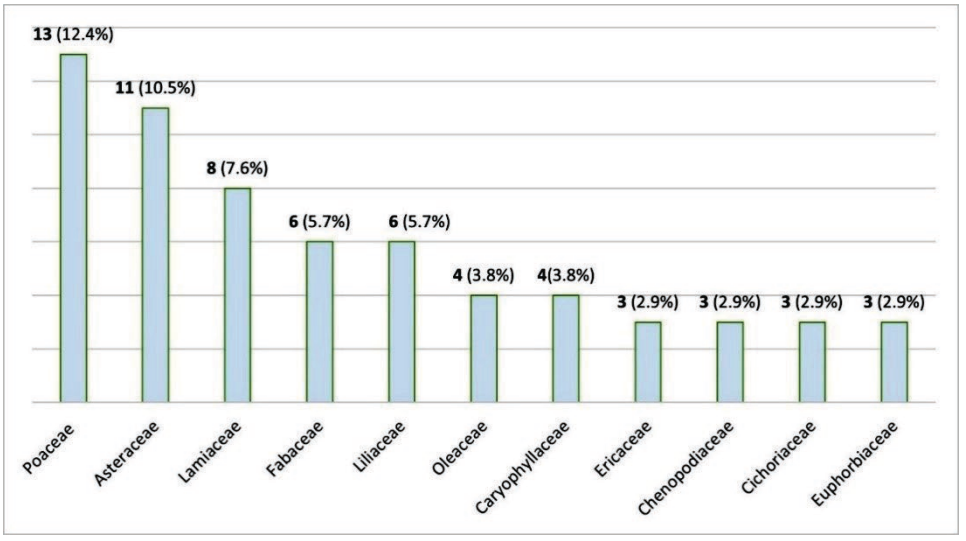

Fig. 2. The most represented families with the number of taxa in the total flora of the islets.

Tab. 2. Analysis of the flora of the islets Majsan, Majsanić and Gojak in the Korčula Archipelago.

TAXON	PTERYDO-PHYTES	GYMNO-SPERMS	ANGIOSPERMS		Total
			Dicotyledons	Monocotyledons	
Families	1	3	36	8	48
Species	1	2	66	24	93
Subspecies	/	1	9	2	12
Species+subspecies	1	3	75	26	105
% of total no. of taxa	0.95	2.86	71.43	24.76	100

Tab. 3. Comparison of angiosperms representation in the flora of several selected islets

ISLETS	% of dicotyledons	% of monocotyledons	Reference
Majsan, Majsanić, Gojak	71.43	24.76	this study
Islets near Pakoštane	75.48	22.18	Pandža & Milović, 2015
Sveti Andrija	76	20	Jasprica *et al.*, 2006
Supetar (near Cavtat)	72	26	Jasprica & Ruščić, 2013

Tab. 4. Life-form spectrum of the studied islets

ISLET Life form	Majsan (%)	Majsanić (%)	Gojak (%)
Therophytes	29.22	11.11	27.78
Hemicryptophytes	20	33.33	26.39
Phanerophytes	23.08	11.11	19.44
Chamaephytes	12.31	16.67	12.5
Geophytes	13.85	27.78	13.89
Hydrophytes	1.54	0	0
TOTAL	100	100	100

Analysis of life forms and floral elements

Therophytes (31.43%), hemicryptophytes (27.62%), and phanerophytes (19.05%) are the most represented life-forms. Geophytes (11.43%) and chamaephytes (9.52%) are less represented, while hydrophytes (0.95%) contributed the least (Tab. 5). Therophytes are most represented on Majsan and Gojak, and less so on Majsanić.This can be explained by the dense vegetation of perennials, garrigue and low maquis that completely covers the ground on Majsanić and the more extreme ecological conditions due to the lower altitude and strong winds that blow aerosol particles all over the islet (Tab. 4). The diversity of life forms on the islets is a consequence of the climate and specific habitats found in the Mediterranean region. High air temperatures, aridity and open habitats are factors best suited for therophytes that survive the unfavorable season in the form of seeds. The increased number of therophytes is also related to anthropogenic influence (Ruščić, 2010). The proportion of life forms on the studied islets is consistent with that of other Adriatic islets, e.g., Sveti Andrija (Jasprica *et al.*, 2006), Supetar (Jasprica & Ruščić, 2013), Zečevo (Skelin *et al.*, 2014), Gospin Škoj, Srednjak and Goljak (Jasprica *et al.*, 2015), Vrnik (Jasprica *et al.*, 2018) (Tab. 5).

The results of the phytogeographical analysis reflect the position of the islets in the Mediterranean vegetation region. Most plants belong to the Mediterranean floral element (60.95%), of which 41.9% are circum-Mediterranean plants. Southern European (20.00%) and widespread (9.52%) plants also have a considerable share in the total flora, while Eurasian plants (4.76%) are significantly less represented (Tab. 6). Although they are only 2 km from the nearest part of the mainland, the anthropogenic influence on these islets is low, as indicated by the low percentage of cultivated and adventitious plants (3.81%). The only cultivated species recorded is *Olea europaea* L.. By comparing the spectrum of floral elements with the flora of some other Dalmatian islands and islets, the expected correspondence can be seen (Tab. 6). Plants of Mediterranean and southern European floral elements dominate, and the most common differences are seen in the representation of widespread, cultivated and alien plants. On the islets with a more pronounced anthropogenic influence, the proportion of the above-mentioned plants is higher than on the smaller and rarely visited islets.

Tab. 5. Life-form spectrum of the islets of Majsan, Majsanić and Gojak in comparison to islets: Sveti Andrija (Jasprica *et al*., 2006), Supetar (Jasprica & Ruščić, 2013), Zečevo (Skelin *et al*., 2014) Gospin Škoj, Srednjak and Goljak (Jasprica *et al*., 2015), Vrnik (Jasprica *et al*., 2018).

ISLET / Life form	Majsan, Majsanić, Gojak (%)	Zečevo (%)	Sveti Andrija (%)	Supetar (Cavtat) (%)	Vrnik	Gospin Škoj	Srednjak	Goljak
Therophytes	31.43	45.4	36.4	35.00	35.4	25.00	33.82	25.00
Hemicryptophytes	27.62	21.3	25.31	22.00	23.9	19.44	29.41	18.75
Phanerophytes	19.05	13	18.18	19.00	19.5	31.94	11.77	25.00
Chamaephytes	9.52	7.9	12.98	10.00	10.8	4.17	5.88	8.33
Geophytes	11.43	12.5	6.49	13.00	10.0	15.28	17.65	20.83
Hydrophytes	0.95	0.00	0.64	1.00	0.4	4.17	1.47	2.09
TOTAL	100,00	100,00	100,00	100,00	100.00	100.00	100.00	100.00

Tab. 6. Floral elements of the islets of Majsan, Majsanić and Gojak in comparison to the islets Sveti Andrija (Jasprica et al., 2006), Gospin Škoj, Srednjak, Goljak (Jasprica et al., 2015), Vrnik (Jasprica et al., 2018)

Islet / Floral element	Majsan, Majsanić, Gojak (%)	Sveti Andrija (%)	Vrnik (%)	Gospin Škoj (%)	Srednjak (%)	Goljak (%)
MEDITERRANEAN	60,95	46,2	60.6	61.12	64.70	68.76
ILLYRIAN-BALKANIC	0,00	/	0.4	1.39	/	/
SOUTH EUROPEAN	20,00	15,82	15.5	13.89	13.24	10.41
ATLANTIC PLANTS	0,00	/	/	/	/	/
EAST EUROPEAN-PONTIC	0,00	/	/	1.39	1.47	/
SOUTHEAST EUROPEAN	0,00	/	0.4	/	/	/
CENTRAL EUROPEAN	0,00	0,63	/	/	/	/
EUROPEAN	0,95	1,26	2.4	4.16	/	/
EURASIAN	4,76	6,33	5.2	1.39	7.35	2.08
CIRCUM-HOLARCTIC PLANTS	0,00	/	/	/	/	/
WIDESPREAD PLANTS	9,52	18,36	13.1	12.50	13.24	16.67
CULTIVATED & ALIEN PLANTS	3,81	11,4	2.4	4.16	/	2.08

Endemic, endangered, protected and alien plant taxa

In total, three endemic taxa (2.86%), seven strictly protected (6.67%) and four endangered taxa (3.81%) were recorded. All endemic taxa belong to the group of Illyrian-Adriatic endemic plants: *Carduus micropterus* (Borbás) Teyber ssp. *micropterus*, *Limonium dictyophorum* (Tausch) Degen and *Vincetoxicum hirundinaria* Medik. ssp. *adriaticum* (Beck) Markgr. According to the Red Book of Vascular Plants of Croatia all the recorded endangered taxa belong to the following IUCN categories: one vulnerable taxon i.e. *Desmazeria marina* (L.) Druce, and two nearly threatened taxa i.e. *Elymus pycnathus* (Godr.) Melderis; *Narcissus tazetta* L.

Of non-indigenous flora, the invasive species *Conyza canadensis* (L.) Cronquist and *Euphorbia prostrata* Aiton have been recorded in the flora of Majsan. A number of studies conducted in the Mediterranean Basin islands have shown that alien plants tend to settle in areas strongly influenced by humans, whereas natural and semi-natural areas appear to be resistant to invasion (VILÀ *et al.* 2007, 2008). In accordance with this, the islets of Majsanić and Gojak, rarely exposed to human influence, have no recorded invasive taxa, and on Majsan only two such species have been recorded so far. However, it is possible that with the development of tourism and more frequent visits to the islets the share of invasive species will increase in the future.

CONCLUSION

This study provides the first insight into the richness of the flora of the islets of Majsan, Majsanić and Gojak and offers a contribution to the general knowledge of the flora of Adriatic islets. As the consequences of climate change become more complex, it is important to observe and analyze the changes in vegetation and plant diversity on the Mediterranean islands. Islets stand out in this regard; extremely sensitive to external disturbances, they make suitable objects of study in the context of global environmental changes. Croatian islands and islets have been particularly exposed to various external influences in the last decade due to the pronounced development of tourism, which can have a negative impact on the biodiversity of these areas. For these reasons, continuous research into the Adriatic islets is important so that appropriate management and protection measures can be proposed.

Received October 20, 2022

REFERENCES

Anonymous, 2013: Pravilnik o strogo zaštićenim vrstama [Ordinance of strictly protected species]. Official Gazette (OG) **144/13**, 7–84.

Blondel, J., 2008: On Humans and Wildlife in Mediterranean Islands. Journal of Biogeography, **35**(3), 509–518.

Bogdanović, S. & Brullo, S., 2015: Taxonomic revision of the Limonium cancellatum group (Plumbaginaceae) in Croatia. Phytotaxa 215, 1-87.

Boršić, I., Milović, M., Dujmović, I., Bogdanović, S., Cigić, P., Rešetnik, I., Nikolić, T. & Mitić, B., 2008: Preliminary check-list of invasive alien plant species (IAS) in Croatia. Natura Croatica **17**, 55–71.

Domac, R., 1994: Flora Hrvatske [Flora of Croatia]. Priručnik za određivanje bilja. Školska knjiga, Zagreb.

Fisković, C., 1981: Ranosrednjovjekovne ruševine na Majsanu [Early medieval ruins on Majsan]. Starohrvatska prosvjeta, III (11), 137-162.

Horvat, I., 1949: Nauka o biljnim zajednicama [Science of plant communities]. Nakladni zavod Hrvatske, Zagreb.

Horvatić, S., 1954: Ilustrirani bilinar [Illustrated bilinear]. Priručnik za određivanje porodica i rodova višeg bilja. Školska knjiga, Zagreb.

Horvatić, S., 1963b: Biljni pokrov dubrovačkog otoka Lokruma zaštićenog prirodnog rezervata [Plant cover of the Dubrovnik's island of Lokrum, a protected nature reserve]. Elaborat za proglašenje otoka Lokruma Zaštićenim prirodnim rezevatom (mscr.).

Horvatić, S., Lj. Ilijanić, Lj. & Marković-Gospodarić, 1967/1968: Biljni pokrov okolice Senja [Vegetation of village of Senj and its surroundings]. Senjski zbornik **3**, 298—323.

Horvatić, S. & Trinajstić, I. (eds.), 1967-1981: Analitička flora Jugoslavije I [Analytical flora of Yugoslavia I]. Institut za botaniku Sveučilišta u Zagrebu, Zagreb

IUCN Standards and Petitions Committee, 2022: Guidelines for Using the IUCN Red List Categories and Criteria. Version 15.1. Prepared by the Standards and Petitions Committee. Available at: https://www.iucnredlist.org

Jasprica, N., Kovačić, S. & Ruščić, M., 2006: Flora and vegetation of Sveti Andrija Island, Southern Croatia. Natura Croatica **15** (1–2), 27–42.

Jasprica, N., 2010: Korčula. In: Nikolić, T., Topić J., Vuković, N. (eds.), Important Plant Areas in Croatia, 192–197. Prirodoslovno-matematički fakultet Sveučilišta u Zagrebu, Školska knjiga d.o.o, Zagreb (in Croatian).

Jasprica, N. & Ruščić, M., 2013: Flora i vegetacija otočića Supetra (Cavtat, južna Hrvatska) [Flora and vegetation of the islet of Supetar (Cavtat, southern Croatia)]. Hrvatska misao (Sarajevo) **46**, 111–134.

Jasprica, N., Dolina, K., Milović, M., 2015: Plant taxa and communities on three islets in south Croatia, NE Mediterranean. Natura Croatica **24**, 191–213.

Jasprica, N., Dolina, K., Milović, M., 2018: The flora and vegetation of the NE Mediterranean islet with centuries-long human influences. Acta Botanica Croatica **77**, 126 – 134.

Javorka, S. & Csápody, V., 1975: Iconographia florae partis Austro-orientalis Europae centralis [Iconography of the flora from the south-eastern part of central Europe]. Académiai Kiadó, Budapest.

Justić, M., Bučar, M., Vizec, P., Vukres, A., Šegota, V. & Vuković, N., 2021: The diversity and distribution of flora of the island of Zlarin (Northern Dalmatia). Natura Croatica **30**(2), 435–465, Zagreb.

Kovačić, S., Nikolić, T., Ruščić M., Milović M., Stamenković V., Mihelj D., Jasprica N., Bogdanović S. & Topić J., 2008: Flora jadranske obale i otoka – 250 najčešćih vrsta [Flora of the Adriatic coast and islands - 250 most common species]. Školska knjiga, Zagreb.

Korolija, B., Borović, I., Grimani, I., Marinčić, S., Jagačić, T., Magaš, N. & Milanović, M., 1977: Osnovna geološka karta SFRJ, 1:100.000. Tumač za list Lastovo, Korčula, Palagruža [Basic geological map of SFRY, 1:100,000. Interpreter for the newspaper Lastovo, Korčula, Palagruža]. Institut za geološka istraživanja, Zagreb. Savezni geološki zavod, Beograd, 1-53.

Krklec, K., Ljubenkov, I. & Bensa, A., 2011: Prirodni resursi otoka Korčule [Natural resources of the island of Korčula]. Geoadria, **16**(1), 3-25.

Médail, F., 2013: The unique nature of Mediterranean island floras and the future of plant conservation. In: Cardona Pons, E, Estau´n Clariso´ I., Comas Casademont, M., Fraga i Arguimbau, P. (eds) Islands and plants: preservation and understanding of flora on Mediterranean islands. In: 2nd Botanical conference in Menorca, Recerca 20, Consell Insular de Menorca, Institut Menorquı´d'Estudis Mao´ , Menorca, pp 325–350

Médail, F., 2017: Plant biogeography and vegetation patterns of the Mediterranean islands. In: Corti C. *et al*. (eds) Herpetofauna of the Mediterranean islands. California Academy of Science, San Francisco (in press)

Milović, M. & Pandža, M., 2010: Vaskularna flora otoka Ista i Škarde s pripadajućim otočićima i hridima [Vascular flora of the islands of Ist and Škarda with the associated islets and cliffs]. In: Faričić, J. (ed.): Otoci Ist i Škarda. Sveučilište u Zadru, Zadar, 149–186.

Milović, M., Kovačić, S., Jasprica, N. & Stamenković V., 2016: Contribution to the study of Adriatic islands flora: vascular plant species diversity in the Croatian island of Olib. Natura Croatica **25** (1), 25–54.

Mucina, L., Bültmann, H., Dierssen, K., Theurillat, J.-P., Dengler, J., Carni, A., Šumberová, K., Raus, T., Di Pietro, R., Gavílan García, R., Chytrý, M., Iakushenko, D., Schaminée, J.H.J., Bergmeier, E., Santos Guerra, A., Daniëls, F.J.A., Ermakov, N., Valachovic, M., Pignatti, S., Rodwell, J.S., Pallas, J., Capelo, J., Weber, H.E., Lysenko, T., Solomesh, A., Dimopolous, P., Aguiar, C., Freitag, H., Hennekens, S.M., Tichý, L., 2016: Vegetation of Europe: Hierarchical floristic classification system of plant, lichen, and algal communities. Applied Vegetation Science 19, 3–264.

Nikolić, T. & Topić, J. (eds.), 2005: Crvena knjiga vaskularne flore Hrvatske [The Red Book of the Vascular Flora of Croatia]. Ministarstvo kulture, Državni zavod za zaštitu prirode, Republika Hrvatska, Zagreb.

Nikolić, T., Antonić, O., Alegro, A., Dobrović, I., Bogdanović, S., Liber, Z. & Rešetnik, I., 2008: Plant species diversity of Adriatic islands: An introductory survey. Plant Biosystems 142, 435-445.

Nikolić, T., Mitić, B. & Boršić, I., 2014: Flora Hrvatske – invazivne biljke [Flora of Croatia - invasive plants]. Alfa d.d., Zagreb.

Nikolić, T., 2019: Flora Croatica – Vaskularna flora Republike Hrvatske, Volumen 4. Ekskurzijska flora [Flora Croatica – Vascular flora of the Republic of Croatia, Volume 4. Excursion flora]. Alfa d.d., Zagreb.

Nikolić, T., 2020a: Flora Croatica – Vaskularna flora Republike Hrvatske, Volumen 1. Uvodni dijelovi, sinopsis porodica, opće kazalo, literatura i dr. [Flora Croatica - Vascular flora of the Republic of Croatia, Volume 1. Introductory parts, family synopsis, general index, literature, etc.]. Alfa d. d., Zagreb.

Nikolić, T., 2020b: Flora Croatica – Vaskularna flora Republike Hrvatske, Volumen 2. Ključevi za determinaciju s pratećim podatcima: Equisetidae, Lycopodiidae, Ophyoglossidae, Polypodidae, Cycadidae, Ginkgooidae, Gnetidae, Pinidae, Magnoliidae – porodice A – FAB [Flora Croatica - Vascular flora of the Republic of Croatia, Volume 2. Keys for determination with accompanying data: Equisetidae, Lycopodiidae, Ophyoglossidae, Polypodidae, Cycadidae, Ginkgooidae, Gnetidae, Pinidae, Magnoliidae - families A - FAB]. Alfa d. d., Zagreb.

Nikolić, T., 2020c: Flora Croatica – vaskularna flora Republike Hrvatske, Volumen 3. Ključevi za determinaciju s pratećim podatcima: Magnoliidae – porodice FAG-ZYG [Flora Croatica - vascular flora of the Republic of Croatia, Volume 3. Keys for determination with accompanying data: Magnoliidae - families FAG-ZYG]. Alfa d. d., Zagreb.

Nikolić, T. (ed.), 2022a: Flora Hrvatske baza podataka [Flora Croatica Database] (URL:http://hirc.botanic.hr/fcd/). Botanički zavod, Prirodoslovno-matematički fakultet, Sveučilište u Zagrebu (accessed September 20, 2022).

Nikolić, T. (ed.), 2022b: Crvena knjiga vaskularne flore Hrvatske [Red Data Book of Vascular Flora of Croatia] (URL: http://hirc.botanic.hr/fcd/CrvenaKnjiga), Botanički zavod, Prirodoslovno-matematički fakultet, Sveučilište u Zagrebu (accessed September 20, 2022).

Nikolić, T. (ed.), 2022c: Flora Hrvatske - Alohtone biljke [Flora of Croatia - Allochthonous plants] (URL: http://hirc.botanic.hr/fcd/InvazivneVrste/), Botanički zavod, Prirodoslovno-matematički fakultet, Sveučilište u Zagrebu (accessed September 20, 2022).

Official Gazette Of The Republic Of Croatia, 2019: Regulation on the Ecological Network and the competences of public institutions for the management of Ecological Network Areas. Narodne novine **80**/19 (in Croatian).

Pandža, M., 2003: Flora of the island of Žirje and small islands around it (eastern Adriatic coast, Croatia). Acta Botanica Croatica **62**(2), 115–139.

Pandža, M., Milović, M., Krpina, V. & Tafra, D., 2011: Vascular flora of the Vrgada islets (Zadar archipelago,eastern Adriatic). Nat. Croat. **20**(1), 97–116.

Pandža, M. & Milović, M., 2015: Flora of the islets near Pakoštane (Dalmatia, Croatia), Natura Croatica **24**(1), str. 19-35.

Pignatti, S., 1982: Flora d'Italia I-III [Flora of Italy]. Edagricole, Bologna.

Raunkiaer, C., 1934: The Life Forms of Plants and Statistical Plant Geography. Oxford University Press, London.

Ruščić, M., 2010: Flora otoka Brača. Doktorska disertacija [The flora of the island of Brač. Doctoral thesis]. Prirodoslovno-matematički fakultet Sveučilišta u Zagrebu.

Schlitzer, R., 2021: Ocean Data View, Available on: odv.awi.de,

Skelin, M., Ljubičić, I., Skelin, I., Vitasović Kosić, I. & Bogdanović, S., 2014: The Flora of Zečevo (Hvar Archipelago, Croatia). Agriculturae Conspectus Scientificus **79**(2), 85–91.

Šegota, T. & Filipčić, A., 2003: Köppenova podjela klima i hrvatsko nazivlje [Köppen classification of climate and Croatian nomenclature]. Geoadria **8**(1), 17–37.

Škvorc, Ž., Jasprica, N., Alegro, A., Kovačić, S., Franjić, J., Krstonošić, D., Vraneša, A., Čarni, A., 2017: Vegetation of Croatia: Phytosociological classification of the high-rank syntaxa. Acta Botanica Croatica **76**, 200–224.

Trinajstić, I. (ed.), 1975a: Analitička flora Jugoslavije II [Analytical flora of Yugoslavia II]. Šumarski fakultet. Sveučilišna naklada Liber, Zagreb.

Tutin, T. G., Burges, N. A., Chater, A. O., Edmondson, J. R., Heywood, V. H., Moore, D. M., Valentine, D. H., Walters, S. M. & Webb, D. A., (ed.), 1993: Flora Europaea 1. 2nd edn. University Press, Cambridge.

Tutin, T. G., Heywood, V. H., Burges, N. A., Moore, D. M., Valentine, D. H., Walters, S. M. & Webb D. A. (ed.), 1968-1980: Flora Europaea 1-5. University Press, Cambridge.

Vilà, M., Pino, J. & Font, X., 2007: Regional assessment of plant invasions across different habitat types. Journal of Vegetation Science **18**, 35-42.

Vilà, M., Siamantziouras Akis Stavros, D., Brundu, G., Camarda, I., Lambdon, P., Médail, F., Moragues, E., Suehs, C.M., Traveset, A., Troumbis, A.Y., Hulme, P.E., 2008: Widespread resistance of Mediterranean island ecosystems to the establishment of three alien species. Diversity and Distributions **14**, 839–851.

Vukadinović, V., 2019: Interaktivna pedološka karta RH s legendom [Interactive pedological map of the Republic of Croatia with a legend] (prema Bogunović, M., Vidaček, Ž., Racz, Z., Husnjak, S. & Sraka, M., 1996: Namjenska pedološka karta Republike Hrvatske mjerila 1:300.000 s tumačem karata. Sveučilište u Zagrebu, Agronomski fakultet, Zavod za pedologiju, URL: http://tlo-i-biljka.eu/GIS.html (accessed November 10, 2022).

Weigelt, P., Jetz, W. & Kreft, H., 2013: Bioclimatic and physical characterization of the world's islands. The Proceedings of the National Academy of Sciences, **110**, 15307–15312.

Whittaker, R.J. & Fernández-Palacios J.M., 2007: Island biogeography: ecology, evolution, and conservation, 2nd edn. Oxford University Press, Oxford.

Appendix 1. The list of vascular plant taxa on the three islets (IUCN- IUCN status, IAS- Invasive plant taxa, MA – Majsan, MAJ – Majsanić, GO – Gojak)

TAXON	FAMILY	LIFE FORM	FLORAL ELEMENT	ENDEMIC	STRICTLY PROTECTED	IUCN	IAS	HABITAT	ISLET
Acinos arvensis (Lam.) Dandy	Lamiaceae	T	EURO					b	GO
Ajuga chamaepitys (L.)Schreb.	Lamiaceae	T	ME-CIRC					a	MA
Ajuga iva (L.) Schreb.	Lamiaceae	Ch	SEU-ME					g	MA
Alium ampeloprasum L.	Liliaceae	G	ME-CIRC					b	GO
Alium commutatum Guss.	Liliaceae	G	ME-CIRC					a, b, c	MA, MAJ, GO
Alium sphaerocephalon L.	Liliaceae	G	SEU-ME					a	GO
Anagallis arvensis L.	Primulaceae	T	WISP					a	MA
Arbutus unedo L.	Ericaceae	P	ME-CIRC					c	MA
Arenaria leptoclados (Reichenb.) Guss.	Caryophyllaceae	T	EUAS					a	GO
Aristolochia clematitis L.	Aristolochiaceae	H	SEU-PO					b	MA
Arthrocnemum fruticosum (L.)Moq.	Chenopodiaceae	H	SEU-ME					b	MAJ

TAXON	FAMILY	LIFE FORM	FLORAL ELEMENT	ENDEMIC	STRICTLY PROTECTED	IUCN	IAS	HABITAT	ISLET
Arum italicum L.	Araceae	G	ME-ATL					c	MA
Asparagus acutifolius L.	Liliaceae	G	ME-CIRC					c, d	MA, MAJ, GO
Asphodelus aestivus Brot	Xantrorrhoeaceae	G	ME-CIRC					a,c	MA, GO
Asplenium ceterach L.	Aspleniaceae	H	SEU-ME					g	MA
Asyneuma limonifolium (L.) Janch.	Campanulaceae	H	ME-ILAPE					a	MA
Atriplex prostrata DC.	Asteraceae	T	ME-ATL					a, b	MA, MAJ, GO
Avena sterilis L.	Poaceae	T	SEU-PO					a, c	GO
Blackstonia perfoliata (L.) Huds. ssp. *perfoliata*	Gentianaceae	T	ME-ATL					a, d	MA
Brachypodium retusum (Pers.) P. Beauv.	Poaceae	H	ME-CIRC					c, d	MA, GO
Briza maxima L.	Poaceae	T	ME-CIRC					a	GO
Bromus erectus Huds.	Poaceae	H	EUAS					a, c, d	GO
Campanula rapunculoides L.	Campanulaceae	H	EUAS					a	MA
Carduus micropterus (Borbás) Teyber ssp. *micropterus*	Asteraceae	H	ME-ILADE	+	+			a	GO
Carduus pycnocephalus L.	Asteraceae	T	ME-CIRC		+			a, f	GO
Carthamus lanatus L.	Asteraceae	T	ME-CIRC					a	GO
Centaurium erythraea Rafn	Gentianaceae	T	WISP					a, d	MA
Chenopodium album L.	Chenopodiaceae	T	WISP					f	GO
Chenopodium murale L.	Chenopodiaceae	T	WISP		+			a	GO
Clematis flammula L.	Ranunculaceae	P	ME-CIRC					c	MA, GO
Colutea arborescens L.	Fabaceae	P	ME-CIRC					c, d	MA, GO
Convolvulus cantabrica L.	Convolvulaceae	Ch	SEU-ME					a	GO

TAXON	FAMILY	LIFE FORM	FLORAL ELEMENT	ENDEMIC	STRICTLY PROTECTED	IUCN	IAS	HABITAT	ISLET
Conyza canadensis (L.) Cronquist	Asteraceae	T	CUAP				+	g	MA
Coronilla emerus L. ssp. *emeroides* Boiss. et Spruner	Fabaceae	P	ME-EAST					c, d	MA, GO
Crithmum maritimum L.	Apiaceae	Ch	ME-ATL					b	MA, MAJ, GO
Cynodon dactylon L. Pers.	Poaceae	T	SEU-MO					a, c, f	MA, MAJ, GO
Dactylis glomerata L. ssp. *hispanica* (Roth) Nyman L.	Poaceae	H	ME-CIRC					a	GO
Daucus carota L. ssp. *hispanicus* (Guan) Thell.	Apiaceae	H	EUAS					e, f	GO
Desmazeria marina (L.) Druce	Poaceae	T	ME-ATL		+	VU		b	MA, GO
Desmazeria rigida (L.) Tutin	Poaceae	T	ME-ATL					a	GO
Dittrichia graveolens (L.) Greuter	Asteraceae	T	ME-CIRC					a	MA
Dittrichia viscosa (L.) Greuter	Asteraceae	H	ME-CIRC					a, d, f	MA
Dorycnium hirsutum (L.) Ser.	Fabaceae	Ch	ME-CIRC					a, d, e, f	MA, MAJ, GO
Elymus pycnathus (Godr.) Melderis	Poaceae	G	ME-CIRC			NT		a, b, c	MA, MAJ, GO
Ephedra fragilis Desf. ssp. *campylopoda* (C. A. Mayer) Asch. et Graeb.	Ephedraceae	Ch	ME-EAST					c	MA, GO
Erica arborea L.	Ericaceae	P	ME-CIRC					c	MA, GO
Erica manipuliflora Salisb.	Eriaceae	T	CUAP					d	MA
Euphorbia prostrata Aiton	Euphorbiaceae	T	CUAP				+	f	MA
Euphorbia spinosa L.	Euphorbiaceae	Ch	ME-CIRC					a	GO
Festuca valesiaca Gaudin	Poaceae	H	SEU-po					a	GO
Ficus carica L.	Moraceae	P	ME-CIRC					c	MA, GO
Fumaria capreolata L.	Papaveraceae	T	ME-ATL					c, d	GO

TAXON	FAMILY	LIFE FORM	FLORAL ELEMENT	ENDEMIC	STRICTLY PROTECTED	IUCN	IAS	HABITAT	ISLET
Galium corrudifolium Vill.	Rubiaceae	H	SEU-ME					a	GO
Geranium purpureum Vill.	Geraniaceae	T	SEU-ME					g	MA
Gladiolus illyricus W.D.J.Koch	Iridaceae	G	SEU-ME		+			a, d	MA, GO
Helichrysum italicum (Roth) G. Don	Asteraceae	Ch	ME-CIRC					a, b	MA, MAJ, GO
Heliotropium europaeum L.	Boraginaceae	T	ME-PO					f	MA
Hippocrepis comosa L.	Fabaceae	H	SEU-ME					c, d	MA
Hordeum murinum L. ssp. *leporinum* (Link) Arcang.	Poaceae	P	ME-CIRC					e, f	GO
Hyoscyamus albus L.	Solanaceae	H	ME-CIRC					f	MA, GO
Hypericum perforatum L. ssp. *veronense* (Schrank) H. Lindb.	Clusiaceae	H	SEU-ME					a	MA
Inula crithmoides L.	Asteraceae	H	ME-ATL					b	GO
Inula verbascifolia (Willd.) Hausskn.	Asteraceae	H	ME-ILADE					a, b	GO
Juniperus phoenicea L.	Cupressaceae	P	ME-CIRC					c	MA
Lagurus ovatus L.	Poaceae	T	ME-CIRC					a	GO
Lavatera arborea L.	Malvaceae	P	ME-EU					f	GO
Limonium dictyophorum (Tausch) Degen	Plumbaginaceae	H	ME-ILADE	+	+	NT		b	MA, MAJ, GO
Lonicera implexa Aiton	Caprifoliaceae	P	ME-CIRC					c, d	GO
Lotus cytisoides L.	Fabaceae	Ch	ME-CIRC					a, b	MA, MAJ, GO
Melica ciliata L.	Poaceae	H	EUAS					a, c	GO
Mercurialis annua L.	Euphorbiaceae	T	WISP					g	MA
Micromeria juliana (L.) Benth. ex Rchb.	Lamiaceae	H	ME-CIRC					g	MA
Muscari comosum (L.) Mill.	Asparagaceae	G	SEU-ME					a	GO
Myrtus communis L.	Myrtaceae	P	ME-CIRC					c	MA, GO

TAXON	FAMILY	LIFE FORM	FLORAL ELEMENT	ENDEMIC	STRICTLY PROTECTED	IUCN	IAS	HABITAT	ISLET
Narcissus tazetta L.	Amaryllidaceae	G	ME-CIRC			NT		a,c	MA, MAJ, GO
Olea europaea L. var. *sylvestris* Brot.	Oleaceae	P	ME-CIRC					c	MA, GO
Olea europea L.	Oleaceae	P	CUAP					c	MA
Ornithogalum narbonense L.	Liliaceae	G	SEU-ME					a	MA
Osyris alba L.	Santalaceae	P	ME-CIRC					c, d	GO
Parietaria judaica L.	Utricaceae	H	SEU-ME					e, f	MA, GO
Petrorhagia saxifraga (L.) Link	Caryophyllaceae	H	SEU-ME					a	GO
Phillyrea latifolia L.	Oleaceae	P	ME-CIRC					c	MA
Phillyrea media L.	Oleaceae	P	ME-CIRC					c	MA
Pinus halepensis Mill.	Pinaceae	P	ME-CIRC					c	MA, MAJ, GO
Pistacia lentiscus L.	Anacardiaceae	P	ME-CIRC					c, d	MA, MAJ, GO
Plantago lanceolata L.	Plantaginaceae	H	WISP					a	GO
Polycarpon tetraphyllum (L.) L.	Caryophyllaceae	T	SEU-ME					c	MA
Portulaca oleracea L.	Portulacaceae	T	WISP					e, f	GO
Posidonia oceanica (L.) Delile	Potamogetonacee	Hy	ME-CIRC		+			h	MA
Prasium majus L.	Lamiaceae	P	ME-CIRC					c, d	GO
Reichardia picroides L. Roth	Asteraceae	H	ME-CIRC					a, b	MAJ, GO
Rubus ulmifolius Schott	Rosaceae	P	ME-ATL					g	MA
Schoenus nigricans L.	Cyperaceae	H	WISP					a, b	MAJ, GO
Sideritis romana L.	Lamiaceae	T	ME-CIRC					a	MA, GO
Silene vulgaris (Moench) Garcke ssp. *angustifolia* Hayek	Caryophyllaceae	H	SEU-ME					a, b	MAJ, GO
Smilax aspera L.	Liliaceae	G	ME-CIRC					c, d	MA, MAJ, GO
Solanum nigrum L.	Solanaceae	T	WISP					f	MA, GO
Sonchus asper (L.) Hill ssp. *glaucescens* (Jord.) Ball	Cichoriaceae	H	ME-CIRC					a	GO
Sonchus oleraceus L.	Cichoriaceae	T	WISP					e, f	MA, GO

TAXON	FAMILY	LIFE FORM	FLORAL ELEMENT	ENDEMIC	STRICTLY PROTECTED	IUCN	IAS	HABITAT	ISLET
Teucrium chamaedrys L.	Lamiaceae	Ch	SEU-PO					a	MA
Teucrium polium L. ssp. *capitatum* (L.) Arcang	Lamiaceae	Ch	ME-PO					a	MA, GO
Trifolium scabrum L.	Fabaceae	T	ME-CIRC					a	GO
Valantia muralis L.	Rubiaceae	T	ME-CIRC					a, g	GO
Veronica cymbalaria Bodard	Scrophulariaceae	T	SEU-ME					g	MA
Vincetoxicum hirundinaria Medik. ssp. *adriaticum* (Beck) Markgr	Asclepiadaceae	G	ME-ILADE	+	+			a	MA, GO