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A contribution to the floristic knowledge of the Monti del Sulcis: Monte Arcosu (S. W. Sardinia)

Abstract

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The flora of Monte Arcosu has been studied and 520 taxa have been found. Among these taxa 432 are species and 78 subspecies belonging to 303 genera and 90 families. The risk currently at plant life in the Monte Arcosu area in comparison with other studied areas of Sulcis is pointed out. Analysis of the biological spectrum shows that therophytes make up 44% of the total, confirming the full Mediterranean character of the area. A comparison with the biological spectra of other floras shows similar values, except for the therophytes which are considerably lower, and confirms the prevalence of woody and shrub hemicryptophytes. The chorological spectrum shows dominance of Mediterranean elements (75%) with a significant presence of the south-western Mediterranean component (16%). The number of endemic plants was found to be 62 with dominance of Sardinian-Corsican elements (33%).

Floristic and vegetational studies of the Monti del Sulcis have been carried out since the 1960s and particularly in the past decade. In fact about twenty years elapsed from the first work on the flora and vegetation of the forest of Pantaleo (Arrigoni 1964) to the most recent studies by Chiappini & al. (1983), Mossa (1985), Mossa & Fogu (1995), Angiolino & Chiappini (1988), Ballero (1990), Camarda & al. (1993) and Camarda & al. (1995).

The aim of this study is to extend the floristic knowledge of the N.-E. part of Sulcis and is considered as an introduction to a study on the vegetation of the Sulcis mountain system.

Geographical framing

Monte Arcosu (Fig. 1) is part of the Monti del Sulcis, it is bound to the North by the Cixerri plain, to the East and South by the catchment basin of Rio Santa Lucia and to the west by the Acquacadda area. It is described in the I.G.M.I. sheets of Assemini 556, II, Capoterra 556, I, Narcao 565, IV and Siliqua 556, III. Most of the territory is in the Communes of Uta and Siliqua and a very small part in the Commune of Decimomannu.

The area includes a hilly and mountainous system above the 200 m contour line; it has a perimeter of 33,750 km and a total area of 32 km^2.

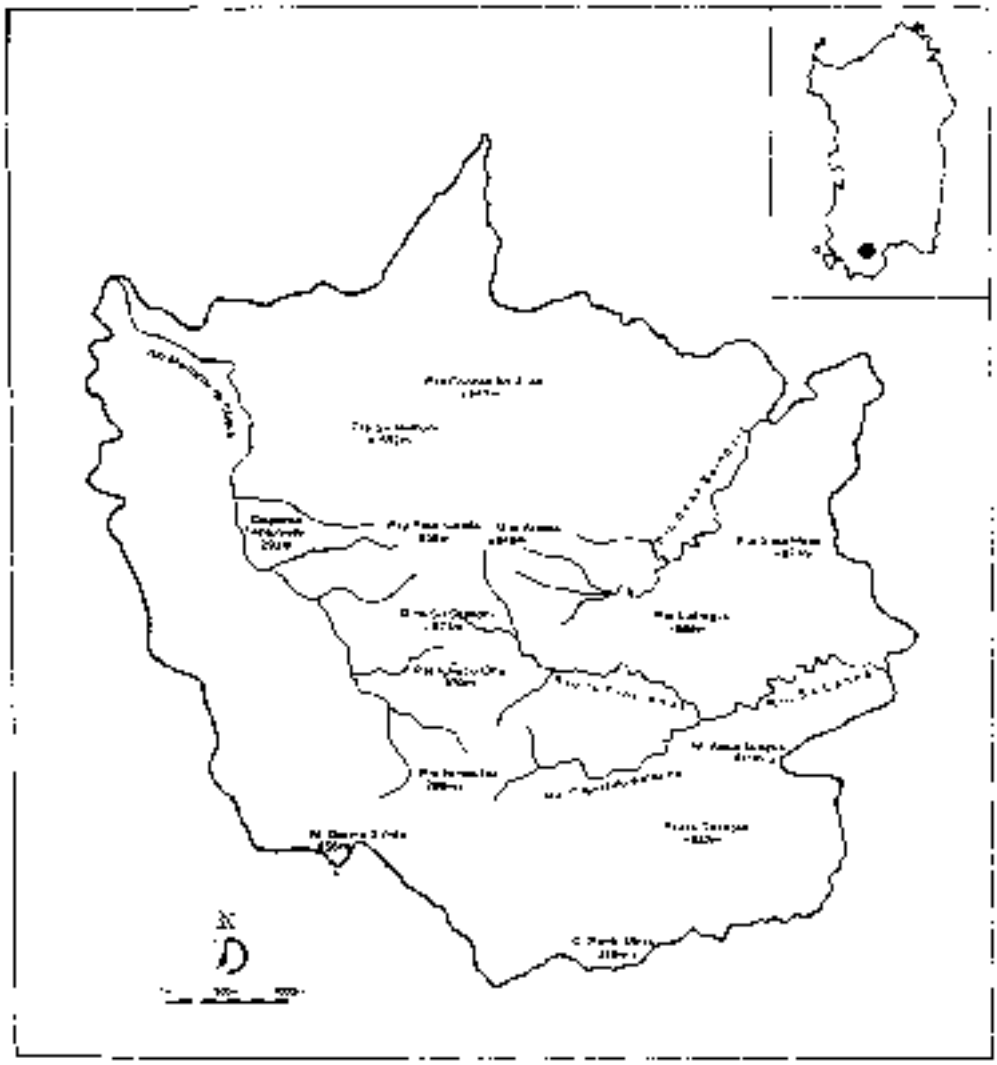

Fig. 1 - [illegible]

Geomorphology and geology

Monte Arcosu is compact and regular; its top develops along an undulating line that is constantly above 900 m altitude and extends for about 0.5 km almost in a N.E.-S.W. axis.

Its morphology is mild only in the highest part, and the sides are characterised by steep slopes and sub-vertical faces as at Su Scavonu.

It is entirely made up of schistose Paleozoic formations on a Late Hercynian granite basement outcropping at altitudes in the 600-700 m range and on the south western ridges towards S. Acuto e S. Arena.

The schists are of an age between the Cambrian-Lower Ordovician and the Silurian (Barca & al. 1986). Two overlying units can be distinguished: an allochthonous unit

(Arburese Unit) and a parautochthonous one (San Leone Unit). The allochthonous unit is overthrust on the parautochthonous (Barca & al. 1991), and both units made up of metasandstones, metaquartzites, metasiltites, metaconglomerates and metapelites.

The granitic mass is often fractured and crossed by quartz dike and pegmatitic-type intrusions. Petrographically it is made up of biotite leucogranites with a medium thick granular structure.

The hydrographic grid seems to be well developed but not important. The main waterways originating in the Monte Arcosu are Rio de sa Spindula, Is Frocidedus and Mannu de Siliqua.

Climate

Since no meteorological stations are present in the area, reference was made to the data reported in Arrigoni (1968) for the near thermopluviometric stations of Is Cannoneris and Santadi and to the data published by the Servizio Idrografico Nazionale (National Hydrographic Institute). Nevertheless, due to lack of information on the minimum and maximum temperatures in the coldest month, it was not possible to produce temperature indices (Rivas-Martinez 1982).

The bioclimatic planes were determined only on the basis of the mean annual temperature (T). According to these climatic data (Table 1), the station at Is Cannoneris (T = 13.1°) is in the meso-Mediterranean plane, while the Santadi station (T = 17.8°) is in the higher thermo-Mediterranean plane. From an analysis of the vegetation, a higher thermo-Mediterranean plane could also be hypothesized for the lower parts of the Monte Arcosu and a meso-Mediterranean one starting from a 100-200 m altitude depending on exposition and slope.

Table 1. Mean temperatures compared.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	Ann Temp. Diff.
Is Cannoneris	6.7	5.7	7.1	9.1	15.5	18.3	22.7	22	19.9	12.9	9.6	7.3	13.1	17.1
Santadi	9.8	9.2	12.2	14.5	14.8	23.6	26.8	27.6	24	20.3	15.3	12	17.8	16.4

An analysis of the monthly rainfall mean of both stations (Tables 2, 3) shows high summer dryness and proves the full Mediterranean nature of the area. This datum is also confirmed by the very irregular trend of annual rainfall recorded between 1922 and 1980.

The mean annual rainfall (P) data show a sub-humid type of climate for the Santadi station (P = 657 mm), and a humid one for Is Cannoneris (P = 1172 mm). The vegetation in the system suggests a sub-humid climate and a dry climate for the north-western areas of Monte Arcosu.

Table 2. Mean rainfall at Is Cannoneris.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	Rainy days
Is Cannoneris	165.1	104.7	114.3	56.7	64.5	15.0	3.9	13.5	47.3	133.3	145.6	160.5	1172.2	80.8

Table 3. Mean rainfall at Santadi.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	Rainy days
Santadi	90.0	77.3	64.5	42.8	38.3	10.8	3.8	10.9	35.2	77.9	95.6	111.7	657.0	60.4

Vegetation

From the first results of an analysis of the vegetation it is seen that most of the territory is made up of coppiced woods of holm oak (*Quercion ilicis* Br.-Bl. 1936 em. Rivas-Martinez 1975) and maquis made up of alliances of *Ericion arboreae* (Riv.-Mart. Ex Riv.-Mart., Costa et Izco 1984) Rivas-Martinez 1987 and *Oleo-Ceratonion* Br.-Bl. 1936 ex Guin. et Drouin. 1944 em. Rivas-Martinez 1984 (Mossa & al. 1991).

In the lower parts characteristic elements of *Pistacio lentisci-Rhamnetalia alaterni* 1975 tend to dominate, while in the areas above 200-300 m those of *Quercetalia ilicis* Br.-Bl. ex Mol. 1934 em. Rivas-Martinez 1975. The highest areas have a low vegetation made up of the alliance of *Teucrion mari* Gamisans et Muracciole 1984 and tufty meadows of *Periballio-Trifolion subterranei* Rivas-Martinez, Fernandez Gonzales et Sanchez Mata 1986 (Bacchetta & al. 1992).

The beds of the torrents are characterised by maquis made up of the alliance of *Rubo-Nerion oleandri* Bolòs 1985 and, where the water table is at the surface or along constantly flowing streams, of riparian woods included in the sub-alliance *Hyperico hircini-Alnenion* Dierschke 1975 or the *Nerio oleandri-Salicion purpureae* De Foucault 1991. The formations belonging to the latter alliance tend to dominate in the flat areas where the sediments increase and the streams slow down.

The rocky faces are colonised prevalently by chasmophytic formations belonging to *Phagnalo sordidi-Cheilanthion maderensis* Loisel. 1970 corr. Pérez-Carro, Diaz-Gonzales, Fernandez Areces et Salvo 1989, while the rocky areas with a low slope and the poorly evolved soils show associations of the alliances *Micromerio graecae-Hyparrhenion podotrichae* Bolòs 1962 corr. and *Tuberarion guttatae* Br.-Bl. 1931 (Camarda & al. 1995). Almost all the pioneer therophytic meadows belong to the latter alliance.

It should be mentioned finally that the north-eastern slope and parts of the mountain tops, that have been traversed by fire, are covered by a low maquis of *Cistus monspeliensis* L. or garrigue presumably of *Lavanduletalia stoechadis* Br.-Bl. (1931) em. Rivas-Martinez 1968.

Flora

The floristic survey was carried out in 1988-1996, with a number of excursions aimed at determining the different seasonal aspects and habitats of the area.

The list of flora was compiled following the systematic order and nomenclature proposed by Pignatti (1982), except in a few cases where it was preferred to adopt those proposed by Arrigoni & al. (1976-91), Terracini & al. (1986), Greuter & al. (1984-1989), Pichi Sermolli (1977), Tutin & al. (1964-1980), Saenz De Rivas & Rivas Martinez (1979) and Scrugli (1990).

For the attribution of biological forms and subforms we followed the criteria proposed by Braun-Blanquet (1932), Pichi Sermolli (1948) and Raunkiaer (1934), and checked the forms of the different taxa directly in the field. Besides the biological forms, the individual entities are provided with chorological elements, according to the types reported in

Pignatti (1982), and brief indications on their habitat or site of discovery and their frequency.

Frequency was expressed using a conventional scale abbreviated as follows: (cc = very common, c = common, pc = not very common, r = rare, rr = very rare, n.s. = not specified).

An asterisk (*) indicates entities reported in the literature but not found by us.

Adventitious species were only reported if they represented naturalised entities.

The herbarium samples have been deposited at the Herbarium of the Institute of Botany and Botanical Gardens of the University of Cagliari (CAG).

List of flora

PTERIDOPHYTA

Selaginellaceae

Selaginella denticulata (L.) Spring - Ch rept - Steno-Medit. - Rocky, shady ravines, maquis and woods; cc.

Isoetaceae

Isoetes durieui Bory - G bulb - W Steno-Medit. - Wet, innermost parts of the river bed up to late spring; r.

Equisetaceae

Equisetum telmateia Ehrh. - G rhiz - Circumbor. - Along the Rio Marroccu and near Is Frucuiddus; rr.

Osmundaceae

Osmunda regalis L. - G rhiz - Subcosmop. - Edges of the main torrents and alder woods; pc.

Polypodiaceae

Polypodium cambricum L. subsp. *serrulatum* (Sch. ex Arcang.) Pic. Ser. - H ros - Euri-Medit. - On sunny rocks and tree-trunks; cc.

Sinopteridaceae

Cheilanthes acrostica (Balbis) Tod. - H ros - Steno-Medit.-Turan. - In the crevices of sunny, dry rocks, often found in association with *Cosentinia vellea* (Aiton) Tod.; pc.

Cheilanthes maderensis Lowe - H ros - W-Medit.-Macarones. - In the crevices of shady, humid rocks, found only along the Sa Rocca Lada mule track; r.

Adiantaceae

Adiantum capillus-veneris L. - G rhiz - Pantrop. - Springs and continually dripping rocks

tendentially associated with *Scrophularia trifoliata* L.; pc.

Hemionitidaceae

Anogramma leptophylla (L.) Link - T caesp. - Cosmop.-Subtrop. - Wet rocks and rocky winding ravines; c.

Cosentinia vellea (Aiton) Tod. - H ros. - Euro-Medit.-Turan. - Sunny rocks of Sa Canna, Medau is Figus Morescas, Gutturu Ladragus and Bocca Fonnesa; pc.

Hypolepidaceae

Pteridium aquilinum (L.) Kuhn - G rhiz. - Cosmop. - Rio de sa Spandula especially in the lower parts and along the Riu Is Fraidus; c.

Aspleniaceae

Asplenium onopteris L. - H ros. - Subtrop.-nesicola. - Maquis and woods; cc.

Asplenium obovatum Viv. - H ros. - Steno-Medit. - Shady cliffs; pc.

Asplenium trichomanes L. subsp. *quadrivalens* D. E. Meyer - H ros. - Cosmop.-temp. - Dry rocks and more thermophilic maquis; c.

Ceterach officinarum Willd. - H ros. - Euras.-temp. - Sunny cliffs; pc.

Athyriaceae

* *Cystopteris dickieana* R. Sim - H caesp. - Subcosmop. - Rocky ground and rocky faces of the Mte Arcosu (Camarda & al. 1995); rr.

Aspidiaceae

Dryopteris pallida (Bory) Maire et Petitm. - G rhiz. - Euri-Medit. - Shady, humid areas, also at edges of roads and under the safety nets for stones placed along the roads; pc.

Dryopteris filix-mas (L.) Schott - G rhiz. - Subcosmop. - Confined edges of the Rio Sa Canna; r.

Polystichum setiferum (Forssk.) T. Moore ex Woynar - G rhiz. - Circumbor. - Found only in the Cuile de sa Scarvonu; r.

Cupressaceae

Juniperus oxycedrus L. - P scap. - Euri-Medit. - Maquis and woods; cc.

Juniperus turbinata Guss. - P scap. - Euri-Medit. - In the more thermophilic maquis near Gutturu Ladragus, Nicola Tuppasu and Sa Spendulas; pc.

MAGNOLIOPHYTA-DICOTYLEDONES

Salicaceae

Salix purpurea L. - P caesp. - Eurasiat.-temp. - The depositional zones of the torrents, particularly frequent in the lower parts of the Rio Sa Canna; c.

Salix arrigonii Brullo - P scap. - Endem. - Deep valleys, springs and beds of torrents up to an altitude of 750 m; c.

Betulaceae

Alnus glutinosa (L.) Gaertner - P scap. - Paleotemp. - The beds of the torrents of Sa Spindula, Is Frocidddus and Marroccu de Siliqua: c.

Fagaceae

Quercus ilex L. - P scap. - Steno-Medit. - Ilex groves and maquis up to the tips of the Monte Arcosu; cc.
Quercus suber L. - P scap. - W-Medit. - Cork groves, maquis and grazing land with trees, especially in the north-eastern slopes: c.

Ulmaceae

Celtis australis L. - P scap. - Euri-Medit. - Rocky areas in the Cùe Baccu Perdosu, Cùe de sa Segraxia and along the Rio Sa Canna: pc.

Moraceae

Ficus carica L. var. *caprificus* Risso - P scap. - Medit.-Turan. - Beds of the torrents: c.

Urticaceae

Urtica atrovirens Req. - H scap. - Endem. - Sheepfolds and ruderal areas of Is Frocidddus and Dispensa Antonietti: c.
Urtica urens L. - T scap. - Subcosmop. - Ruderal areas: pc.
Urtica membranacea Poiret - T scap. - S-Medit. - Sheepfolds, ruderal areas and edges of roads: c.
Urtica pilulifera L. - T scap. - S-Medit. - Edges of footpaths and ruderal areas at low altitudes: r.
Parietaria diffusa M. et K. - H scap. - Euri-Medit.-Macarones. - Ruderal areas, edges of roads and sheepfolds: c.
Parietaria lusitanica L. - T rept. - Steno-Medit. - Humid rocks and walls: pc.

Santalaceae

Osyris alba L. - NP - Euri-Medit. - Stony ground, maquis and woods: c.

Aristolochiaceae

Aristolochia tyrrhena Nardi et Arrigoni - G rad. - Endem. - Found only in the Cùe di Sa Scavoni: rr.
Aristolochia rotunda L. subsp. *insularis* (Nardi et Arrigoni) Gamisans - G rhiz. - Endem. - Among rocks near Sa Spindula and Is Frocidddus: r.

Rafflesiaceae

Cytinus hypocistis (L.) L. - G rad. - Medit.-Macarones. - A parasite at the base of rockroses, especially on *Cistus monspeliensis* L.: c.

Cynanchum acutum L. - G rad - W-Medit. - A parasite on *Cynanchum* sp.: pc

Cactaceae

Opuntia ficus-indica (L.) Miller - P succ - Neotrop. - Rocky lawns and areas, especially near Figus Morescus: pc

Polygonaceae

Polygonum aequale Req. - Ch scap - Endem. - Depositional areas temporarily flooded by the Rio Sa Canna: r.

Polygonum aviculare L. - T rept - Cosmop. - Edges of roads and meadowland: c.

Rumex acetosa L. - H scap - Subcosmop. - Stony ground and dry sandy areas: pc.

Rumex divaricatus Desf. - H scap - W-Medit. - Depositional areas of torrents, meadowland and glades: c

Rumex scutatus L. - H scap - Europ-Caucas. - Meadowland and glades: c

Rumex pulcher L. subsp. *divaricatus* (L.) Murb. - H scap - Euri-Medit. - Sheepfolds, ruderal areas and edges of roads: c

Rumex vesicarius L. - H scap - Sub-cosmop. - Wasteland and edges of roads: pc.

Rumex bucephalophorus L. - T scap - Medit.-Macarones. - Depositional areas of torrents, meadowland and garrigue: pc.

Chenopodiaceae

Beta vulgaris L. - H scap - Euri-Medit. - Edges of roads and meadowland: c

Chenopodium ambrosioides L. - T scap - Cosmop. - Ruderal areas: r

Chenopodium murale L. - T scap - Subcosmop. - Ruderal areas, edges of roads and wasteland: c

Chenopodium album L. - T scap - Subcosmop. - Ruderal areas, sheepfolds and wastelands.

Portulacaceae

Portulaca oleracea L. - T scap - Subcosmop. - Edges of roads and wasteland: c.

Montia fontana L. subsp. *chondrosperma* (Fenzl) Walters - T scap - Medit.-Mont.-Subatl. - Springs: r.

Caryophyllaceae

Arenaria balearica L. - Ch suff. - Endem. - Shady, wet cliffs: pc.

Arenaria serpyllifolia L. - T scap - Subcosmop. - Edges of footpaths and meadowland: c

Moehringia pentandra Gay - T scap - Eur.-Medit. - Maquis and wood glades: pc

Stellaria media (L.) Vill. - T rept - Cosmop. - Edges of roads, wasteland and meadowland: c.

Cerastium glomeratum Thuill. - T scap - Euri-Medit. - Wasteland and meadowland: c.

Moenchia erecta (L.) Gaertn., Meyer et Scherb. - T scap - Subatl.-Subat.: - Wet meadowland: c.

Silene apetala Ard. - T scap - Euri-Medit. - Meadowland: c.

Corrigiola telephiifolia Pourret - H ros - W-Medit. - Depositional areas of torrents; c
Paronychia echinulata Chater - T scap - Steno-Medit. - Depositional areas of torrents, c
Hypericum ventricilatum L. - T scap - Subatl. - Muddy wet areas; pc
Polycarpon tetraphyllum L. - T scap - Euri-Medit. - Dry meadowland; c.
Spergularia arvensis L. - T scap - Subcosmop. - Ruderal areas, wasteland and meadowlands
Stachys aspera (L.) Presl - T scap-Subcosmop -Temp - Wasteland and meadowland; c
Silene italica (L.) Pers. - H ros - Euri-Medit. - Edges of ilex groves. c
Silene nesbiana Vis. - H ros - Endem. - On the rocky faces of Su Scavon and on the tops of Mte Arcosu; r
Silene vulgaris (Moench) Garcke - H scap - Subcosmop. - Meadowland; c.
Silene laeta (Aiton) Gordon - T scap - SW-Medit. - Edges of road-, meadowland and ephemeral pools pc.
Silene gallica L. - T scap - Euri-Medit. - Meadowland and garrigues; c.
Petrorhagia saxifraga (L.) Link subsp. *gasparrinii* (Guss.) Pign. - H caesp - Euri-Medit. - Rocky areas and dry meadows on Mte Arcosu; pc.
Petrorhagia prolifera (L.) P. W. Ball et Heywood - T scap - Euri-Medit. - Rocky areas, edges of footpaths, plains, maquis; c.
Dianthus sp. plur. C. Presl - H scap - Endem. - Rocks and rocky faces; pc

Ranunculaceae

Aquilegia dasycarpa Ten. - T scap - Euri-Medit. - Edges of roads, wasteland and meadowland; pc.
Delphinium pictum Willd. - H scap - Endem. - In the thickets at the edges of the road and on the shore of the Rio Su Spendula; pc
Anemone hortensis L. - G bulb - N-Medit. - Meadowland and glades; c
Clematis flammula L. - P lian - Euri-Medit. - The more thermophilic maquis of the area of Su Perdusciu and Azienda Baggiu, pc.
Clematis cirrhosa L. - P lian - Europ-Caucas - Ilex groves and very humid canals; r
Clematis cirrhosa L. - P lian - Steno-Medit.-Terter. - Maquis and ilex groves; c
Ranunculus bullhosus L. subsp. *strigosus* (Willk.) Rouy et Foucr. - H scap - Euri-Medit. - Meadowland and glades; c.
Ranunculus macrophyllus L. - T scap - Euri-Medit. - Shores of torrents and humid meadowlands c
Ranunculus peltatus Desf. - H scap - Steno-Medit.-Terter. - Meadowland; pc.
Ranunculus ficaria L. - H scap - Eurasiat. - Edges of footpaths and meadowland; c.
Ranunculus bullosus L. - H ros - Steno-Medit. - Glades and meadowland; pc.
Ranunculus sphegiocephalus Vill. - T scap - Euri-Medit. - Edges of streams and swampy areas; c
Ranunculus aquatilis L. - Hrad - Subcosmop. - Slow waters of torrents; r

Guttiferae

Hypericum hircinum L. - NP - Endem. - Beds of torrents, wet areas and springs; c
Hypericum australe Ten. - H scap - W-Steno-Medit. - Shores of torrents; pc.
Hypericum tomentosum Linn. - H scap Paleocosmop. Swampy ground at edges of torrents; pc.
Hypericum perforatum L. - H scap - Subcosmop. - Edges of roads and wasteland at low altitudes; c.

Papaveraceae

Papaver argemone L. - T scap - W-Medit. - Ruderal areas characterized by the presence of man, edges of roads and meadowland; c.

Papaver rhoeas L. - T scap - E-Medit. - Ruderal areas, edges of roads, wasteland and meadowland; c.

Papaver dubium L. - T scap - E-Medit.-Turan. - Depositional areas of torrents and dry meadowland; c.

Fumaria capreolata L. - T scap - Euri-Medit. - Edges of roads, wasteland, meadowland and garrigue; c.

Fumaria officinalis L. - T scap-Subcosmop.-Ruderal areas, wasteland and meadowland; c

Cruciferae

Sisymbrium officinale (L.) Scop. - T scap - Subcosmop. - Wasteland and meadowland; c.

Arabidopsis thaliana (L.) Heynh. - T scap - Cosmop. - Edges of roads, depositional areas and rocky land; c.

Raphanus raphanistrum L. - T scap - Euri-Medit. - Edges of roads, depositional areas, meadowland and wasteland; pc.

Matthiola tomentosa (Desf.) Thell. - T scap - W-Medit. - Depositional areas of torrents; pc

Barbarea rupicola Moris - Ch suffr - Endem. - Granite rocks of Su Scarconi and at Punta Bala Niedda; r.

Nasturtium officinale R.Br. - H scap - Cosmop. - Edges of torrents and swampy areas; c.

Cardamine hirsuta L. - T scap - Cosmop. - Edges of roads, depositional areas of torrents and meadowland; c.

Arabis verna (L.) R. Br. - T scap - Steno-Medit. - Rocks, stony ground and shores of torrents; pc.

Erophila verna (L.) Chevall. - T scap - Circumbor. - Rocky areas, depositional areas of torrents and dry meadowland; c.

Capsella bursa-pastoris (L.) Medicus - H bienn. - Cosmop. - Meadowland; r

Capsella rubella Reuter - T scap - Euri-Medit. - Meadowland and glades; c

Hornungia petraea (L.) Rchb. - T scap - Euri-Medit. - Depositional areas and meadowland; c.

Teesdalia coronopifolia (Bergeret) Thell. - T scap - Euri-Medit. - Edges of roads, wasteland and meadowland; c.

Biscutella didyma L. - T scap - S-Medit.-Turan. - Edges of roads, meadowland and garrigue; r.

Sinapis arvensis L. - T scap - Steno-Medit.-Ruderal areas, wasteland and meadowland; c

Raphanus raphanistrum L. - T scap - Euri-Medit. - Ruderal areas, sheepfolds and wasteland; pc.

Resedaceae

Reseda lutea L. - H scap - Circumbor. - Edges of roads, meadowland and garrigue; pc

Reseda alba L. - H scap - Steno-Medit. - Only two plants found at the edge of the road near Medau Nimu Arvu; r.

Crassulaceae

Umbilicus rupestris (Salisb.) Dandy - G rhiz - Medit.-Atl. - Walls and rocks: c.
Umbilicus horizontalis (Guss.) DC. - G bulb - Steno-Medit. - Walls and rocks: c.
Sedum album L. - Ch succ - Euri-Medit. - Sunny rocks: pc.
Sedum dasyphyllum L. - Ch succ - Euri-Medit. - Sunny rocks often associated with *Cosentinia vellea* (Aiton) Tod. and *Cheilanthes acrosticha* (Balbis) Tod.: c.
Sedum andegavense (DC.) Desv. - T scap - W-Medit. - Found only above Padderi and on M.te Arcosu: r.
Sedum stellatum L. - T scap - Steno-Medit. - Sunny rocks: c.
Sedum caeruleum L. - T scap - SW-Medit. - Sunny rocks: cc.

Saxifragaceae

Saxifraga corsica (Duby) G. et G. - H scap - Endem. - Cool, shady rocks above 150 m altitude: c.

Rosaceae

Rubus ulmifolius Schott - NP - Euri-Medit. - Humid places, beds of torrents and springs: cc.
Rosa canina L. sensu Bouleng. - NP - Paleotemp. - Beds of Riu Is Fraccidus and Muraccedu di Siliqua: pc.
Sanguisorba minor Scop. subsp. *muricata* (Gremli) Briq. - H scap - Subcosmop. - Dry meadowland and garrigue: pc.
Potentilla reptans L. - H ros - Subcosmop. - Humid places, streams and especially riparian woods: pc.
Aphanes arvensis L. - T scap - Subcosmop. - Ruderal areas, edges of roads and wasteland: pc.
Pyrus amygdaliformis Vill. - P caesp - Steno-Medit. - One specimen was found at the edge of the road under Schina su Dummu...u and one near Trunconi...: r.
Prunus spinosa L. - P caesp - Europ.-Caucas. - Rocky areas near P.ta Ignazio Orru and P.ta Perdu Catta: r.

Leguminosae

Ceratonia siliqua L. - P scap - S-Medit. - Shores of torrents and macchia up to 300-400 m altitude: cc.
Anagyris foetida L. - P caesp - S-Medit. - Found only at Conca de Petrant...: r.
Calicotome villosa (Poiret) Link - P caesp - Steno-Medit. - Degraded maquis, especially near Serra Narbonis: pc.
Genista corsica (Loisel.) DC. - NP - Endem. - Found at S'Arcu e S'Arena, Perdu Melis and on M.te Arcosu: pc.
Genista morisii Colla - NP - Endem. - Only in rockrose maquis near Guardia Sa Perda, Azienda Baggi and Campo base: r.
Genista ephedroides DC. - NP - Endem. - Rocky areas of the north-western slope of Monte Arcosu: c.
Lupinus angustifolius L. - T scap - Steno-Medit. - Glades and meadowland: c.
Lupinus micranthus Guss. - T scap - Steno-Medit. - Edges of roads, wasteland and meadowland: c.

Biserrula pelecinus L. - T scap - Steno-Medit. - Edges of roads, meadowland, garrigue and maquis; c.

Bituminaria morisiana (Pign. et Metlesics) Greuter - Ch frut - Endem. - Rocky faces of Schina Lattragus, C.le Sabeni Mannu, Sa Draguda Is Sperrimas, C.le di Su Cannu and above Paddera; pc.

Vicia villosa Roth subsp. *varia* (Host) Corb. - T scap - Euri-Medit. - Edges of roads, ruderal areas and meadowland; c.

Vicia atropurpurea Desf. - T scap - Steno-Medit. - Meadowland, garrigue and glades in the maquis; pc.

Vicia disperma DC. - T scap - W-Medit. - Depositional areas of torrents and garrigue; c.

Vicia sativa L. - T scap - Subcosmop. - Wasteland, meadowland and garrigue; c.

Vicia sativa L. subsp. *angustifolia* (Grufb.) Gaudin - T scap - Subcosmop. - Edges of roads, wasteland and meadowland; c.

Vicia hybrida L. - T scap - Euri-Medit. - Edges of roads, wasteland and meadowland; c.

Vicia lutea L. - T scap - Euri-Medit. - Depositional sands, meadowland and garrigue; c.

Vicia lutea L. subsp. *vestita* (Boiss.) Rouy - T scap - Euri-Medit. - Meadowland, garrigue and poorly evolved maquis; pc.

Vicia bithynica (L.) L. - T scap - Euri-Medit. - Edges of roads, wasteland and meadowland; c.

Lathyrus sphaericus Retz. - T scap - Euri-Medit. - Wasteland, meadowland and garrigue; c.

Lathyrus articulatus L. - T scap - Steno-Medit. - Marginal areas, garrigue and open maquis; c.

Lathyrus ochrus (L.) DC. - T scap - Steno-Medit. - Ruderal areas, edges of roads, wasteland and meadowland; pc.

Pisum sativum L. subsp. *elatius* (Bieb.) Asch. et Gr. - T scap - Steno-Medit.-Turan. - Areas characterised by the presence of man, sheepfolds and wasteland; pc.

Ononis reclinata L. - T scap - S-Medit.-Turan. - Depositional areas, meadowland and garrigue; c.

Medicago orbicularis (L.) Bartal. - T scap - Euri-Medit. - Edges of roads, wasteland, meadowland and garrigue; c.

Medicago rigidula (L.) All. - T scap - Euri-Medit. - Edges of roads, wasteland and meadowland; c.

Medicago truncatula Gaertner - T scap - Steno-Medit. - Edges of roads, wasteland, meadowland and garrigue; c.

Medicago arabica (L.) Hudson - T scap - Euri-Medit. - Ruderal areas, edges of roads, wasteland and meadowland; c.

Medicago praecox DC. - T scap - Steno-Medit. - Wasteland, meadowland, garrigue and glades in the maquis; c.

Trifolium angustifolium L. - T scap - Euri-Medit. - Edges of roads, wasteland and meadowland; c.

Trifolium cherleri L. - T scap - Euri-Medit. - Stony ground, meadowland and garrigue; c.

Trifolium suffocatum L. - T scap - Steno-Medit. - Stony ground, meadowland and garrigue; pc.

Trifolium tomentosum L. - T rept - W-Paleotemp. - Edges of roads, meadowland and garrigue; c.

Trifolium campestre Schreber - T scap - W-Paleotemp. - Meadowland, garrigue and glades in the maquis; c.

Trifolium arvense L. - T scap - W-Paleotemp. - Edges of roads and meadowland: c
Trifolium berytaeum Savi - T scap - Steno-Medit. - Meadowland, garrigue and maquis: pc
Trifolium scabrum L. - T scap - Euri-Medit. - Meadowland: pc
Trifolium stellatum L. - T scap - Euri-Medit. - Ruderal areas, edges of roads, wasteland, meadowland and garrigue: c
Trifolium stoloniferum L. - T scap - Euri-Medit. - Meadowland, garrigue and glades in the maquis: c
Trifolium strictum L. - T scap - Euri-Medit. - Edges of roads, meadowland, garrigue and degraded maquis: c
Trifolium subterraneum L. - T rept - Euri-Medit. - Edges of roads, meadowland and garrigue: c
Dorycnium hirsutum (L.) Ser. - Ch suffr - Euri-Medit. - Garrigue and glades in the maquis: c
Dorycnium rectum (L.) Ser. - Ch suffr - Steno-Medit. - Edges of streams and woods of *Alnus glutinosa* (L.) Gaertner, frequent near Medau Capranu: pc
Lotus angustissimus L. - T scap - Euri-Medit. - Meadowland and garrigue, pc.
Lotus cystisoides L. - T scap - Steno-Medit. - Cultivated areas, wasteland and meadowland: c
Lotus conimbricensis Brot. - T scap - W-Steno-Medit. - Found only on Mte Arcosu in meadowland on *Poa bulbosa* L., r.
Lotus ornithopodioides L. - T scap - Steno-Medit. - Edges of roads, wasteland and meadowland: c.
Tetragonolobus maritimus (L.) Roth - H scap - Medit.-Pontico - At the edge of an alder wood: r.
Ornithopus compressus L. - T scap - Euri-Medit. - Edges of roads, dry meadowland and garrigue: c
Ornithopus pinnatus (Miller) Druce - T scap - Medit.-Atl. - Edges of roads, wasteland and meadowland: pc.
Scorpiurus muricatus L. - T scap - Euri-Medit. - Stony ground, garrigue and degraded maquis: c

Oxalidaceae

Oxalis pes-caprae L. - G bulb - Sudaf. - Marginal areas characterized by the presence of man: c

Geraniaceae

Geranium lanuginosum Lam. - T scap - Centro-Medit. - Cool, humid woods above 600 m altitude: pc
Geranium rotundifolium L. - T scap - Paleotemp. - Ruderal areas and edges of roads: c.
Geranium molle L. - T scap - Subcosmop. - Ruderal areas, edges of roads, wasteland and meadows and: c.
Geranium dissectum L. - T scap - Euri-Medit. - Glades and meadowland: pc.
Geranium lucidum L. - T scap - Euri-Medit. - Shady walls and cliffs: c.
Geranium robertianum L. - T scap - Subcosmop. - Maquis and glades in woods: c.
Geranium purpureum L. - T scap - Euri-Medit. - Garrigue, glades and maquis: c
Erodium cicutarium (L.) L'Hér. - H bienn - Euri-Medit.-Pontico - Ruderal areas, edges of roads, wasteland and meadowland: pc.

Erodium moschatum (L.) L'Her. - T scap - Subcosmop. - Ruderal areas, edges of roads, wasteland and meadowland; c

Erodium cicutarium (L.) L'Her. - H ros - Subcosmop. - Ruderal areas, edges of roads, wasteland and meadowland, c.

Linaceae

Linum bienne Miller - H bienn - Euri-Medit.-Subatl. - Meadowland, garrigue, maquis and glades, c.

Linum trigynum L. - T scap - Euri-Medit. - Meadowland, garrigue and degraded maquis, c

Linum strictum L. - T scap - Steno-Medit. - Meadowland and garrigue; c

Euphorbiaceae

Mercurialis annua L. - T scap - Paleotemp. - Synanthropic areas, edges of roads and near sheepfolds, c.

Mercurialis corsica Coss. - Ch suffr - Endem. - Rocky areas of the Rio Su Coppu and stony ground in the C.le di Su Scavone; r

Euphorbia dendroides L. - NP - Steno-Medit.-Macarones. - Rocky areas, stony ground and degraded maquis up to 550 m altitude, c.

Euphorbia pterococca Brot. - T scap - W.-Medit.-Macarones. - Wasteland, meadowland and garrigue; r

Euphorbia exigua L. - T scap - Euri-Medit. - Rocky areas, meadowland, garrigue and glades in the maquis; c.

Euphorbia peplus L. - T scap - Cosmop. - Ruderal areas, sheepfolds, edges of roads, wasteland and meadowland, pc.

Euphorbia rigoana Guss. ex Bertol. - Ch suffr - Endem. - Wasteland on the western slope of Mte Arenas and near S.ta Lucia; r.

Euphorbia terracina L. - H scap - Steno-Medit. - Waste land, meadowland and garrigue, c.

Euphorbia amygdaloides L. subsp. *arbuscula* Meusel - Ch suffr - Centro-Europ.-Caucas. - In riparian woods of the Rio su Cugnazzulu and s'Acqua e Sa Canna; r.

Euphorbia characias L. - NP - Steno-Medit.-Marginal areas, garrigue and open maquis, c

Rutaceae

Ruta chalepensis L. - Ch suffr - S-Medit. - Ruderal areas or areas characterised by the presence of man especially near S.ta Lucia and Cirdeddu, garrigue and degraded maquis, pc.

Anacardiaceae

Pistacia lentiscus L. - P caesp - Steno-Medit. - Garrigue, maquis and woods up to 800 m altitude, cc.

Rhamnaceae

Rhamnus alaternus L. - P caesp - Steno-Medit. - Beds of torrents and rocky thermophilic

maquis up to 330 m altitude; pc.

Vitaceae

Vitis vinifera L. subsp. *sylvestris* (Gmelin) Hegi - P lian. - Along streams and near springs above 250 m altitude; pc.

Malvaceae

Malva sylvestris L. - H scap. - Subcosmop. - Ruderal areas, sheepfolds, edges of roads, wasteland and meadowland; c.

Lavatera cretica L. - T scap. - Steno-Medit. - At Sa Canna and on the edge of the road near the Gama sheepfold; pc.

Lavatera olbia L. - P caesp. - Steno-Medit. - Edges of roads and rocky areas; c.

Thymelaeaceae

Daphne gnidium L.-P caesp-Steno-Medit.-Macaronies.-Garrigue and degraded maquis; pc.

Violaceae

* *Viola corsica* Nyman subsp. *limbarae* Merxm. et Lippert - H scap. - Endem. - Found by Martelli (20 Mar 1888, FI) and never confirmed since (in Corrias 1984); ns.

Cistaceae

Cistus incanus L. - NP - Steno-Medit. - Garrigue, maquis and glades in woods; c.

Cistus monspeliensis L. - NP-Steno-Medit.-Macaronies. Garrigue and degraded maquis; cc.

Cistus salvifolius L. - NP - Steno-Medit. - Garrigue and maquis; c.

Tuberaria guttata (L.) Fourr. - T scap. - Euri-Medit. - Edges of roads, meadowland and depositional sands of torrents; c.

Tamaricaceae

Tamarix gallica L. - P caesp. - W-Medit. - In the maquis of *Nerium oleander* L. of the lower parts of the Rio Mannu di Siliqua; pc.

Cucurbitaceae

Bryonia marmorata Petit - G rhiz. - Endem. - Edges of roads and maquis, especially near Medau Nizzu Arsiu and Sa Canna; pc.

Lythraceae

Lythrum junceum Banks et Sol. - H scap. - Steno-Medit.-Macaronies. - Wet zones and pools along the Rio Is Frucidduss; pc.

Lythrum hyssopifolia L. - T scap. - Subcosmop. - Wet zones and flood areas of torrents; pc.

Myrtaceae

Myrtus communis L. - P caesp - Steno-Medit. - Canals and torrents, especially along the Rio Sa Canna: pc.

Eucalyptus camaldulensis Dehnh. - P scap - Australia - In reforestation areas, near sheepfolds and in areas characterised by the presence of man: c.

Onagraceae

Epilobium hirsutum L. - H scap - Subcosmop. - Lower parts of the Rio Sa Spanhula: pc

Epilobium lanceolatum Seb. et Mauri - H scap - W-Eurasiat. - Wet rocks, springs and streams: c.

Epilobium tetragonum L. - H scap - Paleotemp. - Wet rocks, springs and streams: pc

Haloragaceae

Myriophyllum spicatum L. - I rad - Subcosmop. - Slow flowing waters of the Rio Is Freiddas: r.

Thelygonaceae

Thelygonum cynocrambe L. - T scap - Steno-Medit. - Ruderal areas, meadowland, garrigue and maquis: c

Araliaceae

Hedera helix L. - P lian. - Suboceanic-Subatl. - Springs, streams, and cool, humid woodscps.

Umbelliferae

Sanicula europaea L. - H bienn - Medit.-Atl. - Ruderal areas and areas characterised by the presence of man, wasteland and humid meadowland: pc.

Smyrnium rotundifolium Miller - H bienn - S-Medit. - Edges of roads, wasteland: pc.

Bunium corydalinum DC - G bulb - W-Medit.-Orient. - Mountain ridge areas of Mte Arcosu (above 850 m altitude): r.

Seseli bocconi Guss. subsp. *praecox* Gamisans - H scap - Endem. - Near St. Scavoni on a schistose face facing east: rr.

Oenanthe pimpinelloides L. - H scap - Medit.-Atl. - Along streams, especially in a wood of *Ulmus glabra* (L.) Gaertner: c.

Oenanthe crocata L. - H scap - Subatl. - Very humid areas, springs and streams: pc.

Foeniculum vulgare L. subsp. *piperitum* (Bertol.) Coutinho - H scap - S-Medit. - Edges of roads, wasteland and meadowland: c.

Margotaenia peucedanoides (L.) Lag. - H scap - W-Steno-Medit. - Only one population was found near Dispensa Antonietti: pc.

Apium nodiflorum (L.) Lag. - I rad - Euri-Medit. - Muddy swards, springs and streams: pc.

Smyrnium perfoliatum (Brot.) Bresser. - T scap - Steno-Medit. - Edges of roads, meadowland and glades: pc.

Ferula communis L. - H scap - S-Medit. - Marginal areas, meadowland and garrigue: c

Tordylium apulum L. - T scap - Steno-Medit. - Sandy areas of torrents, meadowland and garrigue; c.
Thapsia garganica L. - H scap - S-Medit. - Dry meadowland and garrigue; c.
Torilis nodosa (L.) Gaertner - T scap - Euri-Medit.-Turan. - Ruderal areas, edges of roads, wasteland and meadowland; c.
Torilis arvensis (Hudson) Link subsp. *purpurea* (Ten.) Hayek - T scap - Subcosmop. - Edges of footpaths, meadowland, garrigue and degraded maquis; c.
Orlaya kochii Heyw. - T scap - Steno-Medit. - Wasteland and meadowland; pc.
Daucus carota L. - H bienn - Subcosmop. - Ruderal areas, edges of roads and meadowland; c.

Ericaceae

Erica terminalis Salisb. - P caesp - W-Medit. - Edges of the Rio Is Crucuddus and the Rio de Sa Spindula and near the Rio Sa Canna; c.
Erica arborea L. - P caesp - Steno-Medit. - Garrigue, maquis and woods; cc.
Arbutus unedo L. - P - Steno-Medit. - Maquis and woods; cc.

Primulaceae

Cyclamen repandum S. et S. - G bulb - N-Medit. - Maquis and woods; cc.
Asterolinon linum-stellatum (L.) Duby - T scap - Steno-Medit. rocks, Meadowland and garrigue; c.
Anagallis arvensis L. - T rept - Euri-Medit. - Wasteland, meadowland and garrigue; c.
Anagallis parviflora Hoffmgg. et Link - T rept - Steno-Medit.-Occid. - Humid wasteland and meadowland; pc.
Samolus valerandi L. - H scap - Subcosmop. - Wet zones and springs, often associated with *Adiantum capillus-veneris* L.; c.

Plumbaginaceae

Armeria sulcitana Arrigoni - Ch suff - Endem. - Cool, shady rocks of M.te Arcosu and near Su Seacoun; r.

Oleaceae

Olea europaea L. var. *sylvestris* Brot. - P scap - Steno-Medit. - In the more thermophilic maquis, majestic specimens along the Rio sa Canna; c.
Phillyrea angustifolia L. - P caesp - W-Steno-Medit. - The more thermophilic garrigue and maquis; r.
Phillyrea latifolia L. - P scap - Steno-Medit. - Maquis and woods; cc.

Gentianaceae

Blackstonia perfoliata (L.) Hudson - T scap - Euri-Medit. - Humid, cool meadowland; c.
Centaurium erythraea Rafn. subsp. *majus* (Hoffmgg. et Link) Melderis - T scap - Paleotemp. - Edges of footpaths, glades and degraded maquis; c.
Centaurium maritimum (L.) Fritsch - T scap - W-Steno-Medit. - Meadowland, garrigue

and glades of the more thermophilic maquis; r.

Apocynaceae

Nerium oleander L. - P caesp - S-Medit. - Beds of torrents; cc.

Asclepiadaceae

Vincetoxicum hirundinaria Medicus subsp. *contiguum* (Koch) Markgraf - H scap - Eurasiat. - Beds of torrents, especially along the Rio Sa Spindula; pc.

Rubiaceae

Sherardia arvensis L. - T scap - Subcosmop. - Edges of roads, wasteland, meadowland and garrigue; cc.
Asperula laevigata L. - H scap - W-Centro-Medit. - Found only on M.te Arcosu at the edges of the maquis; r.
Galium scabrum L. - H scap - W-Medit. Mont. - Maquis and woods; c.
Galium aparine L. - T scap - Eurasiat. - Wasteland and hedges; c.
Galium verrucosum Hudson - T scap - Steno-Medit. - In depositional areas of the Rio Sa Canna and in therophyte meadowland; pc.
Galium parisiense L. - T scap - Euri-Medit. - Meadowland, garrigue and thermophilic maquis; c.
Galium divaricatum Lam. - T scap - Steno-Medit. - Wasteland and meadowland; c.
Galium murale (L.) All. - T scap - Steno-Medit. - Walls and rocky areas; pc.
Rubia peregrina L. - P lian - Steno-Medit.-Macarones. - Maquis and woods; cc.

Convolvulaceae

Convolvulus siculus L. - T scap - S-Medit. - Found only under a few specimens of *Juniperus turbinata* Guss. at Gutturu Cadrayus; r.
Convolvulus arvensis L. - G rhiz - Cosmop. - Edges of roads, meadowland and garrigue; pc.
Convolvulus althaeoides L. - H scand - W-Steno-Medit. - Edges of roads, meadowland and garrigue; c.

Boraginaceae

Heliotropium europaeum L. - T scap - Euri-Medit.-Turan. - Ruderal areas, edges of roads and wasteland; c.
Alkanna tinctoria (L.) Tausch - H scap - Steno-Medit. - Edges of roads and wasteland; c.
Echium italicum L. - H bienn - Euri-Medit. - Marginal and ruderal areas, wasteland and meadowland; c.
Echium plantagineum L. - H bienn - Euri-Medit. - Ruderal areas, edges of roads and wasteland; c.
Echium creticum L. - H bienn - W-Steno-Medit. - Rocky areas and granitic rubble; pc.
Anchusa italica Retz. - H scap - Euri-Medit. - In the C.le di Su Seavoni at about 700 m altitude; r.
Borago officinalis L. - T scap - Euri-Medit. - Ruderal areas, edges of roads, wasteland and

meadowland; c.

* *Borago pygmaea* (DC.) Chater et Greuter - T scap - Endem. - Humid undergrowth, gorges and springs (sine coll. et sine die, in Valsecchi 1979); n.s.

Myosotis arvensis (L.) Hill - T scap - Europ.-W-Asiat. - Wasteland, meadowland and edges of footpaths; c.

Myosotis ramosissima Rochel in Schultes - T scap - Europ.-W-Asiat. - Grasslands and garrigue of M.te Arcosu; r.

Myosotis discolor Pers. - T scap - Medit.-Atl. - at the base of the faces of Sa Spendula on granitic rubble; r.

Cynoglossum creticum Miller - H bienn - Euri-Medit. - Edges of roads, wasteland and meadowland; c.

Callitrichaceae

Callitriche stagnalis Scop. - I rad - Eurasiat. - Stagnant or slow-flowing waters; pc.

Labiatae

Teucrium massiliense L. - Ch suffr. - W-Steno-Medit. - Shores of torrents, pebbly areas and areas of granitic rubble; pc.

Teucrium chamaedrys L. - Ch suffr. - Euri-Medit. - Garrigue and glades of the maquis; pc.

Teucrium marum L. - Ch suffr. - Subendem. - Marginal areas and rocky areas; c.

Prasium majus L. - Ch frut. - Steno-Medit. - Garrigue and thermophilic maquis; pc.

Marrubium vulgare L. - H scap - Subcosmop. - Ruderal areas and edges of roads; pc.

Sideritis romana L. - T scap - Steno-Medit. - Meadowland, garrigue and thermophilic maquis; r.

Lamium bifidum Cyr. - T scap - Steno-Medit. - Glades of the more humid woods; r.

Lamium amplexicaule L. - T scap - Paleotemp. - Ruderal areas, sheepfolds, wasteland and meadowland; c.

Stachys glutinosa L. - Ch frut. - Endem. - Garrigue and rocky areas; c.

Stachys corsica Pers. - H rept. - Endem. - Humid rocks in the Cile di Sa Scacciu; pc.

Stachys arvensis (L.) L. - T scap - Subcosmop. - Wasteland, meadowland and garrigue; c.

Micromeria graeca (L.) Bentham subsp. *tenuifolia* (Ten.) Nyman - Ch suffr. - Steno-Medit. - Rocky areas and stony ground; c.

Clinopodium vulgare L. subsp. *arundanum* (Boiss.) Nyman - H scap - Circumbor. - Edges of riparian woods; r.

Lycopus europaeus L. - I rad - Circumbor. - Edges of the Riu S'Isca Ddus; r.

Mentha requienii Bentham - H rept. - Endem. - Along the Rio Sa Spendula; r.

Mentha pulegium L. - H scap - Subcosmop. - Wet zones and sides of torrents; pc.

Mentha insularis Req. ex Gren. et Godr. - H scap - Endem. - Humid areas, springs and sides of torrents; c.

Rosmarinus officinalis L. - NP - Steno-Medit. - In the Cile di Sa Canna; r.

Lavandula stoechas L. - NP - Steno-Medit. - Marginal areas, garrigue, degraded maquis; cc.

Salvia verbenaca L. - H scap - Medit.-Atl. - Ruderal areas, edges of roads, wasteland and meadowland; pc.

Solanaceae

Solanum nigrum L. - T scap - Cosmop. - Ruderal areas, sheepfolds and wasteland; pc.

Solanum luteum Miller - T scap - Euri-Medit. - Only one specimen was found in pebbly depositional areas in the bed of the Riu Sa Canna; r

Scrophulariaceae

Verbascum thapsus L. - H bienn - Europ.-Caucas. - Ruderal areas, edges of roads and wasteland; pc.
Verbascum conocarpum Moris - H bienn - Endem. - Sunny rocks of the eastern slope of M.te Arcosu; pc.
Verbascum sinuatum L. - H bienn - Euri-Medit. - Edges of roads and wasteland; c
Verbascum pulverulentum Vill. - H bienn - Centro-S-Europ. - Found in the C.le di Su Scavoni and along the road at Is Frueddus; pc.
Scrophularia peregrina L. - T scap - Steno-Medit. - Cool glades especially along the stony ground at Su Scavoni; pc
Scrophularia trifoliata L. - H scap - Endem. - In the C.le di Su Scavoni; pc.
Misopates orontium (L.) Rafin. - T scap - Paleotemp. - Dry meadowland and rocky areas; c
Linaria pelisseriana (L.) Miller - T scap - Medit.-Atl. - Edges of mule tracks, meadowland and garrigue; c.
Linaria triphylla (L.) Miller - T scap - W-Medit. - Marginal areas and areas characterised by the presence of man, meadowland; c.
Cymbalaria aequitriloba (Viv.) Cheval. - Ch rept - Subendem. - Shady, humid rocks, springs; pc.
Digitalis purpurea L. - H scap - W-Euro-Medit. - Glades and edges of mule-tracks above 420 m altitude, especially near Is Frueddus; pc
Veronica arvensis L. - T scap - Subcosmop. - Marginal areas or areas characterised by the presence of man, wasteland and meadowland; c.
Veronica cymbalaria Bodard - T scap - Euri-Medit. - Walls and rocky areas; pc.
Veronica anagallis-aquatica L. - H scap - Cosmop. - Slow flowing waters and periodically flooded areas, very common near the Sa Canna spring; c
Veronica beccabunga L. - H rept - Eurasiat. - Slow flowing waters and swampy areas; r
Odontites lutea (L.) Clairv. - T scap - Euri-Medit. - Rocky areas, meadowland and garrigue; pc.
Parentucellia viscosa (L.) Caruel - T scap - Medit.-Atl. - Meadowland, garrigue and edges of the maquis; c.
Parentucellia latifolia (L.) Caruel - T scap - Euri-Medit. - Edges of roads, meadowland and garrigue; c.
Bellardia trixago (L.) All. - T scap - Euri-Medit. - Edges of roads, wasteland, meadow and garrigue; c

Orobanchaceae

Orobanche ramosa L. subsp. *nana* (Reuter) Coutinho - T par - Paleotemp. - Wasteland and meadowland; c.
Orobanche lavandulacea Rchb. - T par - W-Medit.-Macaronés. - Found only on M.te Arcosu; r.
Orobanche crenata Forsskal - T par - Euri-Medit.-Turan. - Wasteland and meadowland; c
Orobanche schultzii Mutel - T par - S-Medit. - Edges of roads and mule-tracks; r
Orobanche minor Sm. - T par - Subcosmop. - Parasite on *Bituminaria bituminosa* (L.)

Metlesics) Greuter; pe

Orobanche lutea Baumg. - T par - Centro-S-Europ. - Edge of road near Stazzu Aronti; r.
Orobanche rigens Loisel. - T par - Endem. - Parasite on *Genista corsica* (Loisel.) DC. near d'Aranu d'Arena and on M.te Arcosu; r

Plantaginaceae

Plantago major L. - H ros - Subcosmop. - At the edges of riparian woods; r.
Plantago coronopus L. - T scap - Euri-Medit. - Edges of roads, wasteland and meadowland; c.
Plantago lagopus L. - T scap - Steno-Medit. - Wasteland, meadowland and garrigue; c.
Plantago bellardi All. - T scap - S-Medit. - Edges of roads, wasteland and meadowland; c.

Caprifoliaceae

Viburnum tinus L. - P caesp - Steno-Medit. - Evergreen maquis and woods; pc.
Lonicera implexa Aiton - P lian - Steno-Medit. - Maquis and woods; c.

Valerianaceae

Valerianella microcarpa Loisel. - T scap - Steno-Medit. - Edges of roads, wasteland, meadowland and garrigue; pc.
Valerianella carinata Loisel. - T scap - Euri-Medit. - Edges of roads, wasteland and meadowland; c.
Centranthus calcitrapae (L.) Dufr. - T scap - Steno-Medit. - Depositional areas of torrents, meadowland and garrigue; c.

Dipsacaceae

Dipsacus ferox Loisel. - H bienn - W-Steno-Medit. - Found only on the tops of M.te Arcosu; r.
Scabiosa maritima L. - H bienn - Steno-Medit. - Edges of roads and wasteland; pc.

Campanulaceae

Legousia falcata (Ten.) Fritsch - T scap - Steno-Medit. - Edges of roads, wasteland and meadowland; pc.
Campanula erinus L. - T scap - Steno-Medit. - Rocky areas and dry meadowlands; r.
Jasione montana L. - H bienn - Europ.-Caucas. - Sandy or pebbly areas and dry parts of shores; pc.

Compositae

Eupatorium cannabinum L. - H scap - Paleotemp. - Springs, streams and riparian woods; pc.
Conyza bonariensis (L.) Cronq. - T scap - America tropic. - Edges of roads and synanthropic areas; c.
Bellis annua L. - T scap - Steno-Medit.-Macaronés. - Ruderal areas, edges of roads and

meadowland; c.

Bellis perennis L. - H ros - Circumbor. - Ruderal areas, sheepfolds, edges of roads and meadowland; c.

Bellis sylvestris Cyr. - H ros - Steno-Medit. - Edges of roads, wasteland, meadowland and glades; c.

Bellium bellidioides L. - H ros - Endem. - Cool, wet rocks, springs; c.

Evax pygmaea (L.) Brot. - T rept - Steno-Medit. - Therophytic meadowland and edges of footpaths on the tops of M.te Arcosu; r.

Filago eriocephala Guss. - T scap - Steno-Medit.-CE - Edges of roads, meadowland, garrigue and glades; pc.

Ogifa gallica (L.) Chrtek et Holub - T scap - Euri-Medit. - Meadowland and garrigue; c.

Phagnalon saxatile (L.) Cass. - Ch suffr - W-Medit. - rocky areas; c.

Helichrysum montelinasanum Schmid - Ch suffr - Endem. - Tops of M.te Arcosu; rr.

Helichrysum italicum (Roth) Don subsp. *microphyllum* (Willd.) Nyman - Ch suffr - W-Medit.-Nesicola - Rocky areas, depositional areas of torrents, garrigue and degraded maquis; c.

Inula viscosa (L.) Aiton - H scap - Euri-Medit. - Ruderal areas, edges of roads, wasteland and meadowland; cc.

Pulicaria odora (L.) Rchb. - H scap - Euri-Medit. Glades, maquis, ilex and cork groves; c.

Pallenis spinosa (L.) Cass. - H bienn - Euri-Medit. - Ruderal areas and edges of roads; r.

Anthemis arvensis L. subsp. *[illegible]* Briq. et Cavill. - T scap - Subendem. - Ruderal areas, edges of roads, meadowland and garrigue; c.

Achillea ageratum L. - H scap - W-Steno-Medit. - Wet meadowland; c.

Achillea ligustica All. - H scap - W-Steno-Medit. - Dry, sunny slopes; pc.

Chrysanthemum coronarium L. - T scap - Steno-Medit. - Areas characterised by the presence of man, edges of roads and wasteland; pc.

Artemisia arborescens L. - NP - S-Medit. - Edges of roads; pc.

Senecio leucanthemifolius Poiret - T scap - Steno-Medit. - Meadowland and garrigue; c.

Senecio vulgaris L. - T scap - Cosmop. - Ruderal areas and areas characterised by the presence of man, edges of roads, wasteland and meadowland; c.

Senecio lividus L. - T scap - Steno-Medit. - Meadowland, garrigue and glades in the maquis; pc.

Calendula arvensis L. - T scap - Euri-Medit. - Ruderal areas, edges of roads, sheepfolds and meadowland; c.

Carduus pycnocephalus L. - H bienn - Euri-Medit.-Turan. - Ruderal areas and edges of roads; c.

Ptilostemon casabonae (L.) Greuter - H scap - Subendem. - Edges of roads and footpaths, depositional areas of torrents; c.

Silybum marianum (L.) Gaertner - H bienn - Medit.-Turan. - Synanthropic and ruderal areas, edges of roads and wasteland; pc.

Galactites tomentosa Moench - H bienn - Steno-Medit. - Ruderal areas, edges of roads, wasteland and meadowland; c.

Crupina crupinastrum (Moris) Vis. - T scap - Steno-Medit. - Meadowland, garrigue and glades; pc.

Centaurea calcitrapa L. - H bienn - Subcosmop. - Areas characterised by the presence of man, edges of roads and meadowland; c.

Carlina corymbosa L. - H scap - Steno-Medit. - Edges of roads, meadowland and garrigue; c.

Atractylis gummifera L. - H ros - S-Medit. - Wasteland, meadowland and garrigue; c.

Scolymus hispanicus L. - H bienn - Euri-Medit. - Edges of roads and wasteland; pc.

Cichorium intybus L. - H scap - Cosmop. - Edges of roads; pc.

Tolpis umbellata Bertol. - T scap - Steno-Medit. - Wasteland, meadowland, garrigue and glades in the maquis; c.

Rhagadiolus stellatus (L.) Willd. - T scap - Euri-Medit. - Wasteland, meadowland and garrigue; c.

Hedypnois cretica (L.) Willd. - T scap - Steno-Medit. - Meadowland and garrigue; pc.

Hypochoeris glabra L. - T scap - Euri-Medit. - Edges of roads, wasteland and meadowland; c.

Hypochoeris cretensis (L.) Chaub. et Bory - H scap - NE-Medit. - rocky areas of Su Scavoni; r.

Hypochoeris achyrophorus L. - T scap - Steno-Medit. - Meadowland, garrigue and glades in the maquis; pc.

Robertia taraxacoides (Loisel.) DC. - H ros - Endem. ? - Granitic, schistose rocks of Mte Arcosu above 650 m altitude; pc.

Urospermum picroides (L.) Schmidt - T scap - Euri-Medit. - Ruderal areas, edges of roads, wasteland and meadowland; c.

Urospermum dalechampii (L.) Schmidt - H scap - Euri-Medit.- Centro-Occid. - Edges of roads, wasteland and meadowland; c.

Andryala integrifolia L. - T scap - W-Euri-Medit. - Meadowland, garrigue and glades in the maquis; c.

Taraxacum officinale Weber - H ros - Circumbor. - Ruderal areas, meadowland and glades; c.

Sonchus asper (L.) Hill - T scap - Subcosmop. - Edges of roads, sheepfolds and wasteland; c.

Sonchus oleraceus L. - T scap - Subcosmop. - Edges of roads and wasteland; c.

Sonchus tenerrimus L. - T scap - Steno-Medit. - Ruderal areas, edges of roads, sheepfolds and wasteland; c.

Mycelis muralis (L.) Dumort. - H scap - Europ-Caucas. - Edges of footpaths; pc.

Reichardia picroides (L.) Roth - H scap - Steno-Medit. - Edges of roads and meadowland; c.

Aetheorhiza bulbosa (L.) Cass. - G bulb - Steno-Medit. - Edges of roads and meadowland; c.

Crepis leontodontoides All. - H ros - W-Medit.-Mont. - Rocky areas, garrigue and maquis; pc.

Crepis foetida L. - H bienn - Euri-Medit. - Edges of roads, wasteland, meadowland and garrigue; c.

Crepis vesicaria L. - T scap - Submedit.-Subatl. - Ruderal areas, edges of roads, wasteland and meadowland; c.

Crepis bellidifolia Loisel. - T scap - W-Steno-Medit. - Rocky areas and meadowland at lower altitudes; r.

MONOCOTYLEDONES

Alismataceae

Alisma plantago-aquatica L. - I rad - Subcosmop. - Stagnant or slow flowing waters; pc.

Liliaceae

Asphodelus microcarpus Salzm. et Viv. - G rhiz - Steno-Medit. - Meadowland, garrigue and maquis; cc.
Colchicum cupanii Guss. - G bulb - Steno-Medit. - On the rocks of Medau Figu Moriscas and Sa Spertunas; pc.
Gagea granatelli Parl. - G bulb - S-Medit. - Meadowland and garrigue of the uppermost areas of M.te Arcosu; r.
Scilla autumnalis L. - G bulb - Euri-Medit. - Meadowland and garrigue; c.
Urginea maritima (L.) Baker - G bulb - Steno-Medit.-Macaronés. - Meadowland and garrigue; c.
Urginea undulata (Desf.) Steinh. - G bulb - S-Medit. - Corrasion pools and crevices of rocks along the Rio Sa Canna and near Stazzu Aronis; r.
Ornithogalum biflorum Jord. et Fourr. - G bulb - Endem. - Found only on M.te Arcosu; r.
Brimeura fastigiata (Viv.) Chouard - G bulb - Subendem. - Rocks and cool, shady, winding ravines; r.
Leopoldia comosa (L.) Parl. - G bulb - Euri-Medit. - Rocky areas, meadowland and garrigue; c.
Allium vineale L. - G bulb - Euri-Medit. - On M.te Arcosu at low altitudes; r.
Allium parciflorum Viv. - G bulb - Endem. - Found only on the tops of M.te Arcosu; r.
Allium roseum L. - G bulb - Steno-Medit. - Found only in one glade on M.te Arcosu; r.
Allium subhirsutum L. - G bulb - Steno-Medit. - Meadowland, garrigue and maquis; c.
Allium triquetrum L. - G bulb - W-Steno-Medit. - Edges of roads, glades, maquis and woods; c.
Asparagus acutifolius L. - G rhiz - Steno-Medit. - Maquis and woods; cc.
Asparagus albus L. - Ch frut - W-Steno-Medit. - Rocky areas, garrigue and degraded maquis; c.
Ruscus aculeatus L. - Ch frut - Euri-Medit. - Maquis and woods; c.
Smilax aspera L. - NP - Paleo-Subtrop. - Maquis and woods; cc.

Amaryllidaceae

Leucojum autumnale L. - G bulb - Steno-Medit. - Meadowland and glades; c.
Pancratium illyricum L. - G bulb - Endem. - Rocky areas at the edges of torrents; pc.

Dioscoreaceae

Tamus communis L. - G rad - Euri-Medit. - Glades, maquis and woods; c.

Iridaceae

Iris pseudacorus L. - G rhiz - A few specimens at the edges of Paldera; r.
Iris sisyrinchium L. - G bulb - Steno-Medit. - Dry meadowland; pc.
Crocus minimus DC. - G bulb - Endem. - Meadowland and garrigue above 400-500 m altitude; c.
Romulea ligustica Parl. - G bulb - SW-Steno-Medit. - Glades near P.ta Ignazio Oliu; r.
Romulea requienii Parl. - G bulb - Endem. - Meadowland and garrigue; pc.
Romulea rollii Parl. - G bulb - W-Steno-Medit. - Sandy areas of the Rio Mannu di

Siliqua; r.

Romulea columnae Seb. et Mauri - G bulb - Steno-Medit. - Meadowland, garrigue and glades; c.

Gladiolus byzantinus Miller - G bulb - Steno-Medit. - Found only at Paulera; r.

Juncaceae

Juncus subulatus Forsskal - G rhiz - S-Medit. - Near Campu e Luas; r.

Juncus bufonius L. - T caesp - Cosmop. - Humid places, swampy ground and streams; c.

Juncus effusus L. - G rhiz - Cosmop. - Near the Sa Canna spring and along the Riu Is Franeddus; pc.

Juncus acutus L. - H caesp - Euri-Medit. - Beds of torrents; c.

Juncus articulatus L. - G rhiz - Circumbor. - Beds of torrents; c.

Juncus capitatus Weigel - T scap - Euri-Medit.-Atl. - Depositional areas and beds of torrents; pc.

Luzula forsteri (Sm.) DC. - H caesp - Euri-Medit. - Evolved maquis and woods; c.

Gramineae

Lamarckia aurea (L.) Moench - T scap - Steno-Medit.-Turan. - Edges of roads, wasteland, meadowland and garrigue; c.

Cynosurus echinatus L. - T scap - Euri-Medit. - Edges of footpaths, meadowland and garrigue; c.

Cynosurus elegans Desf. - T scap - Steno-Medit. - Meadowland, garrigue and glades in the maquis; c.

Briza maxima L. - T scap - Paleo-Subtrop. - Meadowland, garrigue and degraded maquis; c.

Briza minor L. - T scap - Subcosmop. - Meadowland, garrigue and maquis; c.

Dactylis hispanica Roth - H caesp - Steno-Medit. - Rocky areas, dry meadowland and garrigue; c.

Dactylis glomerata L. - H caesp - Paleotemp. - Wasteland and meadowland; pc.

Poa annua L. - T caesp - Cosmop. - Marginal areas and areas characterised by the presence of man, wasteland and meadowland; c.

Poa bulbosa L. - H caesp - Paleotemp. - Rocky areas, dry meadowland and garrigue; c.

Vulpia geniculata (L.) Link - T caesp - W-Steno-Medit. - Meadowland and garrigue; c.

Vulpia ligustica (All.) Link - T caesp - Steno-Medit. - Edges of roads, wasteland and meadowland; c.

Vulpia ciliata Dumort. Link - T caesp - Euri-Medit. - Edges of roads, wasteland, meadowland and garrigue; c.

Vulpia myuros (L.) Gmelin - T caesp - Subcosmop. - Edges of roads, wasteland and meadowland; c.

[illegible] (Vis.) Henr. - T scap - W-Euri-Medit. - On granitic debris and pebbles; pc.

Catapodium rigidum (L.) Hubbard - T scap - Euri-Medit. - Edges of roads, wasteland and meadowland; c.

Melica ciliata L. - H caesp - Euri-Medit.-Turan. - Rocky areas and meadowland on Mte Arcosu; pc.

Melica arrecta O.Kuntze - H caesp - Steno-Medit. - Rocky areas, garrigue and maquis; pc.

Melica minuta L. - H caesp - Steno-Medit. - Edges of roads, rocky areas, meadowland and garrigue; c.

Lolium rigidum Gaudin - T scap - Paleo-Subtrop. - Edges of roads, wasteland and meadowland; pc.

Bromus rubens L. - T scap - S Medit.-Turan. - Ruderal areas, edges of roads, wasteland and meadowland; c.

Bromus sterilis L. - T scap - Euri-Medit.-Turan. - Ruderal areas, edges of roads, wasteland and meadowland; c.

Bromus madritensis L. - T scap - Euri-Medit. - Ruderal areas, edges of roads, wasteland and meadowland; pc.

Bromus rigidus Roth - T scap - Paleo-Subtrop. - Ruderal areas, edges of roads, wasteland and meadowland; pc.

Bromus scoparius L. - T scap - Steno-Medit. - Wasteland and meadowland; c.

Bromus intermedius Guss. - T scap - Euri-Medit. - Meadowland and garrigue; pc.

Bromus hordeaceus L. - T scap - Subcosmop. - Edges of roads, sheepfolds, wasteland and meadowland; c.

Brachypodium sylvaticum (Hudson) Beauv. - H caesp - Paleotemp. - In the wood of *Alnus glutinosa* (L.) Gaertner and more rarely in the wood of *Quercus suber* L.; c.

Brachypodium ramosum (L.) R. et S. - H caesp - W-Steno-Medit. - Garrigue and degraded maquis; c.

Brachypodium distachyum (L.) Beauv. - T scap - Steno-Medit.-Turan. - Meadowland, garrigue and degraded maquis; c.

Hordeum murinum L. - T scap - Circumbor. - Ruderal areas, edges of roads, wasteland and meadowland; c.

Hordeum leporinum Link - T scap - Euri-Medit. - Ruderal areas, wasteland and meadowland; c.

Avena barbata Potter - T scap - Euri-Medit.-Turan. - Ruderal areas, edges of roads, wasteland and meadowland; c.

Avena sterilis L. - T scap - Euri-Medit.-Turan. - Ruderal areas, edges of roads, wasteland and meadowland; c.

Lophochloa cristata (L.) Hyl. - T caesp - Subcosmop. - Wasteland, meadowland and garrigue; c.

Trisetaria panicea (Lam.) Maire - T scap - W-Steno-Medit.-Macarones. - Ruderal areas, edges of roads, wasteland and meadowland; r.

Gastridium ventricosum (Gouan) Sch. et Th. - T scap - Medit.-Atl. - Edges of roads, meadowland, garrigue and glades in the maquis; c.

Polypogon viridis (Gouan) Breistr. - H caesp - Paleo-Subtrop. - Wet depositional sands and sides of torrents; pc.

Lagurus ovatus L. - T scap - Euri-Medit. - Ruderal areas, edges of roads, wasteland and meadowland; c.

Aira caryophyllea L. - T scap - Paleo-Subtrop. - Sandy areas of the torrents, meadowland and garrigue; c.

Aira cupaniana Guss. - T scap - W-Steno-Medit. - Sandy areas, meadowland and garrigue; c.

Aira elegans Willd. - T scap - Euri-Medit. - Glades, maquis and woods; pc.

Corynephorus fasciculatus Boiss. et Reuter - T scap - W-Steno-Medit. - Meadowland, garrigue and glades; r.

Anthoxanthum ovatum Lag. - T scap - W-Steno-Medit. - Garrigue and degraded maquis at high altitudes, woods; pc.

Stipa bromoides (L.) Dorfl. - H caesp - Steno-Medit. - Glades and maquis; pc.

Stipa capensis Thunb. - T scap - Steno-Medit. - Wasteland, meadowland and garrigue; c.

Dactylis glomerata (L.) Asch. et Schweinf. - H caesp - Steno-Medit.-Turan. - Edges of roads, wasteland, meadowland and pastures: c.

Cynosurus echinatus L. - T caesp - Paleotemp. - Edges of roads, rocks and weakly inclined rocky faces in the Rocca Frumesa area: c.

Araceae

Arum pictum L. fil. - G rhiz - Endem. - Marginal areas, glades and maquis: c.

Arisarum vulgare Targ.-Tozz. - G rhiz - Steno-Medit. - Garrigue, maquis and woods: cc.

Ambrosina bassii L. - G rhiz - W-Steno-Medit. - Meadowland, glades, garrigue and maquis: c.

Lemnaceae

Lemna minor L. - I nat - Subcosmop. - Ponds along the Rio Is Fraiscadus: r.

Typhaceae

Typha angustifolia L. - G rhiz - Circumbor. - Found only along the Rio Mannu di Silliqua and Rio Is Fraiscadus: r.

Cyperaceae

Carex distachya Desf. - H caesp - Steno-Medit. - Evolved maquis and woods: c.

Carex divisa Hudson - G rhiz - Euri-Medit.-Atl. - Wet meadowland, boggy areas and edges of torrents: pc.

Carex hallerana Asso - H caesp - Euri-Medit. - Maquis and woods: pc.

Carex distans L. - H caesp - Euri-Medit. - Glades, margins and woods: pc.

Carex otrubae Podp. - G rhiz - Eurasiat. - Springs, boggy areas and beds of torrents: pc.

Carex flacca Schreber - G rhiz - Europ. - Wet zones, springs and riparian woods: pc.

Bolboschoenus maritimus (L.) Palla - G rhiz - Euri-Medit. - Edges of torrents: c.

Isolepis prolifera (Rottb.) R. et Sch. - T caesp - Subcosmop. - Wet, consolidated sands of the Rio Sa Canna: pc.

Isolepis setacea (L.) R. Br. - T caesp - Paleotemp. - Found only near a spring along the Rio Is Fraiscadus: r.

Cyperus longus L. - G rhiz - Paleotemp. - Stagnant or slow flowing waters, especially near Sa Canna: pc.

Orchidaceae

Limodorum abortivum (L.) Swartz - G rhiz - Euri-Medit. - Evolved maquis and woods: c.

Neotinea maculata (Desf.) Stearn - G bulb - Steno-Medit. - Glades in the maquis and woods: c.

Ophrys apifera Hudson - G bulb - Euri-Medit.-Meadowland and glades in the maquis: pc.

Ophrys lutea Cav. subsp. *minor* (Tod.) O. et E. Danesch - G bulb - Steno-Medit. - Maquis, garrigue and meadowland: pc.

Ophrys morisii (Martelli Soo in Keller & al. - G bulb - Endem. - Edges of roads, meadowland, garrigue and maquis: c.

Ophrys tenthredinifera Willd. - G bulb - Steno-Medit. - Edges of roads, meadowland and garrigue; c.

Orchis longicornu Poiret - G bulb - W-Steno-Medit. - Edges of roads, meadowland and garrigue; cc.

Orchis papilionacea L. - G bulb - Euri-Medit. - Meadowland, garrigue and glades in the maquis; c.

Orchis papilionacea L. subsp. *grandiflora* (Boiss.) H. Baumann - G bulb - Steno-Medit. - The drier meadowland and garrigue; c.

Serapias cordigera L. - G bulb - Steno-Medit. - Meadowland, garrigue and edges of the maquis; c.

Serapias lingua L. - G bulb - W-Steno-Medit. - Meadowland, garrigue and glades in the maquis; pc.

Serapias nurrica Corrias - G bulb - Endem. ? - In the more thermophilic maquis of the lower areas; r.

Serapias parviflora Parl. - G bulb - Steno-Medit. - meadowland and garrigue, often mixed with *Serapias lingua* L.; c.

Spiranthes spiralis (L.) Chevall. - G rhiz - Europ-Caucas. - wet meadowland; pc.

Discussion

In the research on Monte Arcosu 520 taxa were recorded, of which 492 were specific and 28 subspecific belonging to 300 genera and 80 families.

The families with the greatest number of entities (Table 4) were the *Compositae* (55) followed by the *Leguminosae* (51) and the *Gramineae* (47).

Table 4. Families with more than one taxon

Families	Genera	Entities
Compositae	41	55
Leguminosae	18	51
Gramineae	25	47
Caryophyllaceae	15	21
Labiatae	13	20
Scrophulariaceae	10	19
Liliaceae	12	18
Umbelliferae	14	17
Cruciferae	15	16
Orchidaceae	6	14

Considering the number of taxa per km², Table 5 shows the floristic richness of Monte Arcosu compared with Piscinamanna (Arrigoni 1984) and Pantaleo-Gutturu Mannu-Punta Maxia (Camarda & al. 1993). Since in the flora of Piscinamanna, taxa of a lower rank than subspecies were not considered, the number of entities of this area was reduced from 552 to 461. A comparison of the different flora shows that Monte Arcosu is floristically richer than the other two areas and that the data relating to Pantaleo-Gutturu Mannu-Punta Maxia tend to be considerably different especially as regards genera and species, a difference only partly justifiable with the fact that a much greater area had been considered.

Table 5 - Floristic richness

	Area (km2)	Entities	Entities per km2	Genera	Genera per km2	Families	Families per km2
Monte Arcosu	32	520	16.25	303	9.47	90	2.81
Piximanzanna (Arrigoni 1964)	40	467	11.67	269	6.72	n.s.	-
Pantaleo (Camarda & al. 1993)	170	593	4.94	338	2.81	90	0.75

The data relating to the biological spectrum (Fig. 2) essentially confirm the Mediterranean nature of the area (T = 43.6%) and the high degree of woodland covering (P = 10.9%). The high percentage of geophytes (G = 14%) seems to be associated with the presence of rain, especially with the practice of setting fires and with woodland pastoral activity. Significant is the percentage of hydrophytes (I = 1.4%) that are found essentially along torrents and near springs.

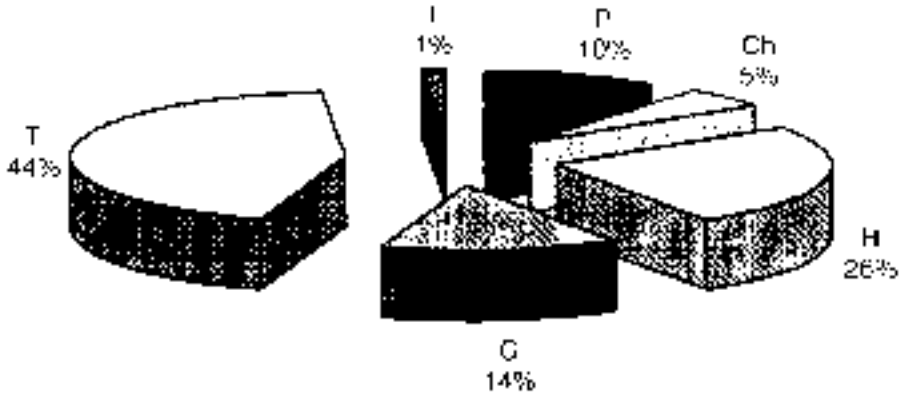

Fig. 2. Biological spectrum of the Area of Monte Arcosu.

From a comparison of the biological spectrum of Monte Arcosu (Table 5) with that of Sardinia (Bocchieri 1995) no particular discordance emerges, while great differences are seen in the therophyte values as compared to the data of Piximanzanna (Arrigoni 1964) and Pantaleo-Gutturu Mannu-Punta Maxia (Camarda & al. 1993). The percentage values for these floras were significantly higher (by 9 and 8 percentage points) and no important justification can be found except for the fact that the Piximanzanna area faces the sea

Table 6. A comparison of the biological spectra.

	P	Ch	H	G	T	I
Monte Arcosu	10.4	5.0	25.5	14.0	43.6	1.4
Pisanamanna (Arrigoni 1964)	9.0	5.0	19.0	15.0	52.0	0.0
Pantaleo (Camarda & al. 1992)	9.3	3.7	25.7	13.4	40.2	0.7
Sardinia (Bocchieri 1995)	8.8	8.1	28.1	12.1	39.9	3.0

Fig. 3 shows the spectrum of analogous chorological classes, grouped together in macroforms for a clearer comparison, while a second spectrum (Fig. 4 and Table 7) shows the Mediterranean subelements. In this way the spectra show both the dominance of Mediterranean species (75%), and that of steno-Mediterranean (24%), euri-Mediterranean (23%) and endemic (9%) elements. The western-Mediterranean (11%) and southern Mediterranean (5%) components are important because they identify the chorological barycentre of the studied area.

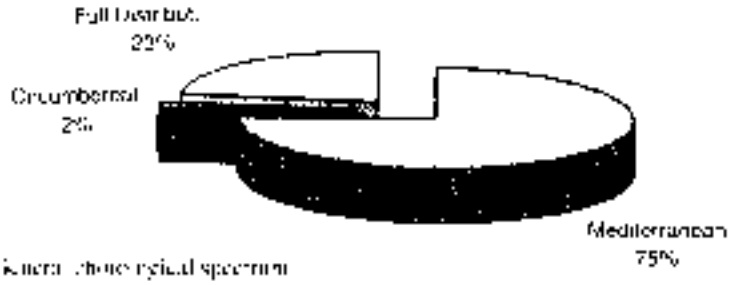

Fig. 3. General chorological spectrum.

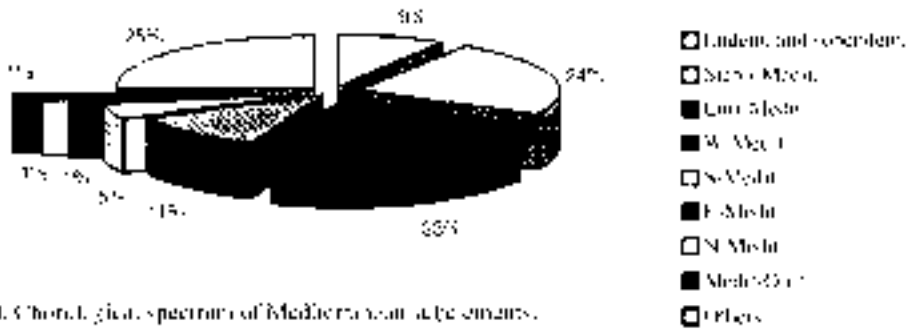

Fig. 4. Chorological spectrum of Mediterranean subelements.

Table 7. Mediterranean subelements

Chorological type	taxa	%
Endem. and subendem.	46	9
Steno-Medit.	125	24
Euri-Medit	120	23
W-Mediter.	59	11
S-Medit.	26	5
E-Medit.	4	1
N-Medit	3	1
Medit-Orooh.	6	1
OTHERS	132	25

For the endemic species (46 entities, 3 of which are subspecies) a spectrum was prepared (Fig. 5 and Tables 8-9) showing the Sardinian endemic component distinct from the Sardinian-Corsican and other widely distributed components. Entries of Tyrrhenian gravitation according to Arrigoni & Di Tommaso (1991c) have been included in the endemic Tyrrhenian category. The result shows dominance of the Sardo-Corsican and Sardinian endemic entities, that together make up 57% of the total. The datum relating to Sardo-Corsican entities (37%) is high due to the siliceous nature of the substrate that tends to dominate the morphologies in summit areas, in rocky faces and in areas above 600 m altitude.

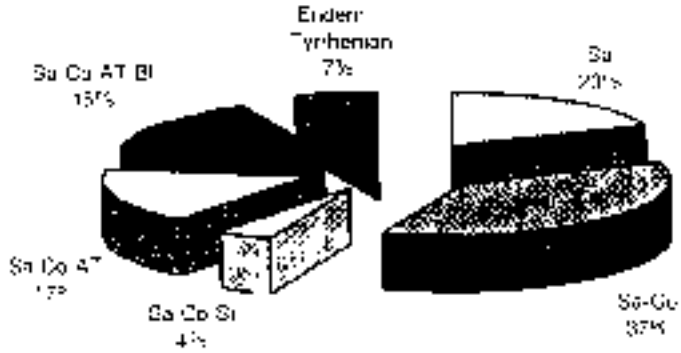

Fig. 5. Chorological spectrum of the endemic component.

Table 8. Number and percentage of endemic species.

Chorological type	taxa	%
Sardinian	9	20
Sardinia-Corsica	17	37
Sardinian-Corsica-Sicily	2	4
Sardinia-Corsica-Tuscan Archipelago	8	17
Sardinian Corsica Tuscan Arch. Balearic Is.	7	15
Tyrrhenian Endem. (sensu Arrigoni & Di Tommaso 1991)	3	7

Table 8. The endemic component of Monte Arcosu

Allium parciflorum Viviani	Sa-Co
Arenaria balearica L.	Su-Co-AT-Bl
Aristolochia rotunda L. subsp. *insularis* Gamisans	Sa-Co
Aristolochia tyrrhena Nardi et Arrigoni	Sa
Armeria soleirolii Arrigoni	Sa
Arum pictum L. fil.	Su-Co-AT-Bl
Barlia robertiana Moris	Sa-Co
Bellium bellidioides L.	Su-Co-Bl
Bituminaria morisiana (Pignatti et Mellegics) Greuter	Sa
Borago pygmaea (DC.) Chater et Greuter	Sa-Co-AT
Brachypodium retusum (Pers.) Beauv.	Sa-Co-AT-Bl
Bryonia marmorata Petit	Sa-Co
Carex microcarpa Bertol. ex Moris	Su-Co-AT
Crocus minimus DC. Rocq.	Sa-Co
Cymbalaria aequiloba (Viv.) A. Chevalier	Su-Co-AT-Bl
Delphinium pictum Willd.	Sa-Co-Bl-Ga
Dianthus siculus C.Presl	Sa-Co-Si
Euphorbia cupanii Guss. ex Bertol.	Su-Co-Si
Euphorbia semiperfoliata Viv.	Sa-Co
Genista corsica (Loisel.) DC. in Lam. et DC.	Sa-Co
Genista morisii Colla	Sa
Genista sphacelata DC.	Sa
Helichrysum montelinasanum E.Schmid	Sa
Hypericum hircinum L.	Sa
Mentha insularis Req. ex Grun et Godr.	Su-Co-AT-Bl
Mentha requienii Benth.	Su-Co-AT
Merendera filifolia Camb.	Sa-Co
Ophrys morisii (Martelli) Soo in Keller et al.	Sa-Co
Ornithogalum pilosum Jordan et Fourr.	Su-Co
Orobanche rigens Loisel.	Sa-Co
Pancratium illyricum L.	Su-Co-AT
Polygonum scoparium Req. ex Loisel.	Su-Co
Ptilostemon casabonae (L.) Greuter	Su-Co-AT-Ga
Romulea requienii Parl.	Su-Co-It
Salix arrigonii Brullo	Sa
Saxifraga corsica (Ser. ex Duby) Gren. et Godr.	Su-Co
Scrophularia trifoliata L.	Su-Co-AT
Scrophularia ramosissima Loisel.	Sa-Co
Scutellaria columnae All. subsp. *columnae*	Su-Co
Sideritis romana L.	Sa-Co
Stachys glutinosa L.	Su-Co-AT
Stachys corsica Pers.	Su-Co
Teucrium marum L.	Su-Co-AT
Urtica atrovirens Req. ex Loisel.	Su-Co-AT-Bl
Verbascum conocarpum Moris	Sa-Co-AT
Viola corsica Nym. subsp. *limbarae* Merxm. et Lippert	Sa

The endemic component shows a certain floristic massiveness that gains significance when the chorological spectra refers to the entire Sulcis-Iglesiente mountain complex. In this light findings of taxa such as *Helichrysum montelinasanum* Schmid and *Armeria*

sulcitana Arrigoni are important and contribute to a better definition of the area of Monte Arcosu from a biogeographical point of view. In fact in Sulcis so far, *Helichrysum montelinasanum* Schmid had only been found on Monte Lattias (Angiolino & al. 1988) and *Armeria sulcitana* Arrigoni on Punta Sa Cresia (Arrigoni 1970).

The finding of *Aristolochia tyrrhena* Nardi et Arrigoni, *Genista morisii* Colla and *Seseli bocconi* Guss. subsp. *praecox* Gamisans, contributes to better define the distribution area and ecology of these entities.

As regards *Serapias nurrica* Corrias and *Romulea requienii* Parl., it should be pointed out that they have been included among the endemic species though, in the light of recent findings, their chorological position is uncertain.

Finally, it should be mentioned that since *Viola corsica* Nyman subsp. *limbarae* Merxm. et Lippert and *Borago pygmaea* (DC.) Chater et Greuter, are the only entities that were not found in this study, and that first finding has never been confirmed, these entities may have become extinct.

As regards the taxa of phytogeographical interest, the datum relating to the finding of *Cheilanthes maderensis* Lowe, *Bunium corydalinum* DC., *Robertia taraxacoides* (Loisel.) DC. (Camarda & al. 1995), *Euphorbia amygdaloides* L. subsp. *arbuscula* Meusel (Brullo 1993) and *Orobanche schultzii* Mutel. (Arrigoni 1964) is confirmed. Entities of western-Mediterranean gravitation, that are new in Sulcis, such as *Sedum andegavense* (DC.) Desv., *Orobanche lavandulacea* Rchb., [illegible], [illegible] (Viv.) Fiori and *Corynephorus fasciculatus* Boiss. et Reuter have been reported.

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