
OTANTHUS MARITIMUS (L.) HOFFMANNSEGG ET LINK (FAM. ASTERACEAE) AND CRYPISIS SCHOENOIDES (L.) LAMARCK (FAM. POACEAE), TWO NEW ADDITIONS TO THE FLORA OF THE MALTESE ISLANDS

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ABSTRACT

The occurrence of *Otanthus maritimus* (L.) Hoffmannsegg et Link and *Crypsis schoenoides* (L.) Lamarck in the Maltese islands is reported for the first time. Information on habitat, distribution and status is also given.

Otanthus maritimus (L.) Hoffmannsegg et Link

During August 1992 the author found a small population of *Otanthus maritimus* on the sand dune at Ramla tat-Torri, Marfa peninsula, Northern Malta. About four plants were seen at the time.

The low mound of sand on the foreshore at Ramla tat-Torri coincides with the *Agropyretum mediterranei* association as described by Bartolo *et al.*, (1982) that has resulted from the degradation of an old established *Ammophiletum arundinaceae* dune. The main species was *Elymus farctus* (Viviani) Runemark ex Melderis with *Eryngium maritimum* L. as sub-dominant. *Cutandia maritima* (L.) W.Barbey, *Sporobolus arenarius* (Gouan)Duv-Jouve, *Erodium laciniatum* (Cavanilles)Willdenow, *Euphorbia peplis* L., *Lotus* cf. *halophilus* Boissier et Spruner and *Cakile maritima* (Willdenow)Nyman were other important accompanying species. *Euphorbia terracina* L., *Pancratium maritimum* L. and *Polygonum maritimum* L. were present in small numbers. Species not exclusive to sand dune habitats, particularly ruderals, were frequent, especially under a row of trees at the back of the sandy beach, examples being *Lagurus ovatus* L., *Cynodon dactylon* (L.) Persoon, *Salsola kali* L., *Scabiosa maritima* L., *Plantago coronopus* L., *Diplotaxis eruroides* (L.)DC., *Atriplex prostrata* DC., *Conyza bonariensis* (L.) Cronquist, *Lavatera arborea* L., *Sonchus oleraceus* L., *Echium arenarium* Gussone, *Malva sylvestris* L. and *Ononis natrix* L.

The stunted size and sporadicity of the *Otanthus maritimus* plants found give the impression of an old population on the way to extinction. Throughout the past two decades the sand dune at Ramla tat-Torri has undergone much disturbance

¹ "High Croft", Triq il-Verdun, Kappara, Malta.

due to bulldozing, trampling, camping, parking of vehicles and boathouse construction. Several species that used to be associated with it such as *Euphorbia paralias* L. and *Ammophila littoralis* (Beauvos) Rothmaler have disappeared. Hence *Otanthus maritimus* is critically endangered in the Maltese islands.

DISTRIBUTION: *Otanthus maritimus* grows on maritime sands in the Canary islands, around the Mediterranean and along the coast of Western Europe, northwards to South East Ireland (Tutin, 1976; Fiori, 1969).

Crypsis schoenoides (L.) Lamarck

In July, 1993 the author discovered a population of *Crypsis schoenoides* (L.) Lamarck on the valleybed between the 'Inland sea' and 'Il-Qattara' pool in Dwejra, western Gozo. About one thousand clumps were counted at the time. The only other *Crypsis* that occurs in the Maltese islands is the very rare *Crypsis aculeata* (L.) Aiton, which is now confined to saltmarsh pockets at Ghadira s-Safra (Ghallis) and Il-Qaliet (Paceville) in the island of Malta (Lanfranco, 1989).

The valleybed vegetation is transitional between a saltmarsh community and disturbed waste land overrun with weeds. The halophilic *Inula crithmoides* L. is the dominant shrub; the weedy perennial *Dittrichia viscosa* (L.) Greuter is sub-dominant. Halophilic species present, most of which occur in the greatest population density towards the 'Inland Sea', are: *Arthrocnenum glaucum* (Delile) Ungern - Sternberg (only at the valleybed end), *Atriplex prostrata* DC., *Spergularia bocconei* (Scheele) Graebner, *Melilotus messanensis* (L.) Allioni, *Lotus cytisoides* L. (only on rocky ground), *Frankenia* spp., *Crithmum maritimum* L., *Daucus* cf. *gingidium* L., *Centaurium spicatum* (L.) Fritsch, *Senecio leucanthemifolius* Poiret, *Hordeum marinum* Hudson. A watercourse flows through the valleybed during the winter rains, some clayey parts retaining enough humidity to support populations of *Medicago ciliaris* (L.) Allioni, *Trifolium fragiferum* L., *Polypogon monspeliensis* (L.) Desfontaine, *Agrostis stolonifera* L., *Phalaris paradoxa* L. and *Lythrum hyssopifolium* L. . However the soil is very dry during the Summer, as is evidenced by the large number of the spiny xerophilic *Cichorium spinosum* L. Also, species requiring a permanent water supply that is present very close to the site do not occur in the valleybed e.g. *Cyperus longus* L., of which a large stand grows around the permanent pool (Il-Qattara), and *Apium nodiflorum* (L.) Lagasca growing on the dripping shaded rocks above the pool. The most frequent weeds include *Lobularia maritima* (L.) Desvaux, *Lotus edulis* L., *Oxalis pes-caprae* L., *Malva silvestris* L., *Foeniculum vulgare* Miller, *Daucus carota* L., *Mentha pulegium* L., *Aster squamatus* (Sprengel) Hieronymus, *Galactites tomentosa* Moench,

Reichardia picroides (L.). Rothmaler, *Sonchus oleraceus* L., *Carlina involucrata* Poiret, *Hedypnois cretica* (L.) Dum., *Dactylis glomerata* L., *Bromus* spp., *Hordeum* spp., *Lagurus ovatus* L., *Avena* spp., *Cynodon dactylon* (L.) Persoon.

The *Crypsis schoenoides* population found in Gozo occurs on bare stable clay in five soil depressions in the valleybed that are flooded during winter rains and parched dry in Summer. The largest subpopulation (>900 clumps), occurs in the depression closest to the 'Inland Sea' (approx. 210m away). In this particular trough, *C. schoenoides* is the only plant species present, but its clumps abruptly give way to the valleybed vegetation at the trough border. This is perhaps due to minimum soil disturbance as well as tolerance by *Crypsis schoenoides* of extreme conditions in the troughs, especially the high salinity (at least during the Summer drought), that keep out other competitive species. In fact, *C. schoenoides* clumps are comparatively few in other weed infested troughs, e.g. only three clumps in a depression overrun with *Cynodon dactylon* (L.) Persoon.

This fragmentary community of *C. schoenoides* gives the impression of a dwindling old established population. The valleybed is being severely degraded by goats' grazing, refuse and rubble dumping, trampling and boathouse building. Consequently, saltmarsh vegetation is succumbing to ubiquitous weeds e.g. only one clump of the halophilic *Juncus acutus* L. remains. Thus *C. schoenoides* is a highly vulnerable species in the Maltese islands.

Crypsis schoenoides occurs in damp places, such as riverbank mud and brackish saline areas.

DISTRIBUTION: Sudan and Mediterranean region, northwards to North West France, Slovakia and central European Russia, eastwards to North India, with isolated records from Senegal, Malawi, Mozambique and Madagascar (Tutin, 1980; Clayton *et al.*, 1974).

The plants of both species found are presumably indigenous since they occur within their typical phytocoenosis and the Maltese islands are well within the species' distribution.

Specimens of both species have been deposited in the private herbaria of the author and that of Edwin Lanfranco in Malta.

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