Updated Flora and Fauna Species List of Il-Ballut Wetland (Marsaxlokk)

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ABSTRACT

The current knowledge of the macrophytic flora colonizing il-Ballut Reserve is viewed based on literature and field studies. Several species (such as *Ruppia* spp. and *Triglochin barrelieri*) are marked as extinct whilst others, most notably *Halimione portulacoides* and *Carex extensa* have shown extensive population accrual. New records of both flora and fauna are included, such as the banded Argiope, *Argiope trifasciata*.

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INTRODUCTION

Locally about thirty, mostly small, saline wetlands have been recorded, out of which only six can be said to remain in a relatively 'good' ecological state, whilst the others can be classified as degraded, heavily degraded or in some cases, even extinct (Anderson & Schembri, 1989; Lanfranco, 2002). Therefore, their constrained distribution signifies that the resident biota is currently under threat, whereas their vulnerability has resulted in loss of many species.

This report deals with the flora and fauna of il-Ballut (il-Magħluq), an engineered saline lagoon, as delineated by figure 1 (page 2). The area underwent considerable changes over the years due to habitat engineering works aimed at the restoration of the original saltmarsh habitat, which changes were evaluated in a vegetation study by Falzon (1999) by comparing the situation to that recorded by Bonello in 1992. Faunal studies are altogether rare in the area and are restricted to casual observations or unpublished records. The report therefore aims to give an update to former studies performed.

METHOD

The lists were accumulated from literature and field visits carried out by the author. Line transects were performed in the area during September 2004.

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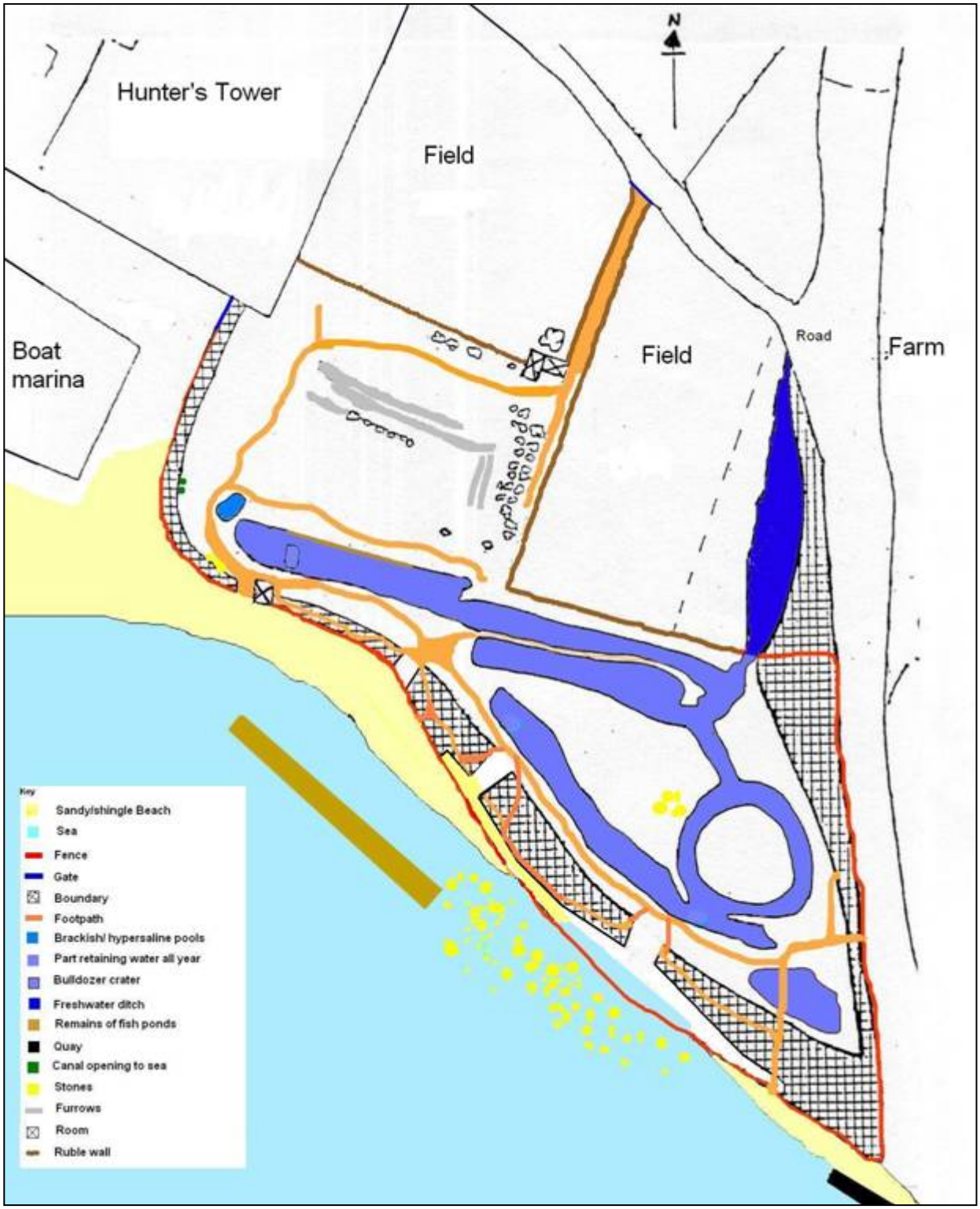

Figure 1: Site plan of il-Ballut Saline wetland in 2005 (*Henwood* et. al, 2005).

SPECIES LISTS

Floral Records from il-Ballut

Table 1: List of vascular plants recorded from il-Ballut Reserve. **Keys to symbols-**

Key 1 (Raunkiaeran life form): P- phanerophyte; C- chamaephyte; H- hemicrypthophyte; G- geophyte (cryptophyte); T- therophyte; EH- emergent hydrophyte; SH- submerged hydrophyte; FH- Floating hydrophyte.

Key 2 (Type): 1- confined to saline marshes; 2- growing on a variety of saline substrates; 3- dune species; 4- frequent also on non-saline substrates; 5- weed species; 6- planted; 7- decrease at il-Magħluq since previous studies; 8- increase at il-Magħluq since previous studies; 9- endangered at il-Magħluq; 10- extinct at il-Magħluq; 11- introduced as a protection measure.

Key 3 (Records): A- Sommier & Caruana Gatto (1915), B- Borg (1927); C- Haslam et al. (1977); D- Lanfranco *et al* (1987).; E- Lanfranco *et al.*(1989); F- Bonello (1992); G- Falzon (1999); H- fielwork carried out in 2005 by JH.

Key 4 (Status in il-Ballut during present study): EX- extinct; VR- very rare; R- rare; C- common; VC- very common; F= Frequent; U- unsubstantiated records; A- naturalised alien.

	Growth form	Type	Records	Status
Dicotyledons				
family: AIZOOACEAE				
Mesembryanthemum nodiflorum L.	C	2, 8	F- H	F
family: APIACEAE (UMBELLIFERAE)				
Foeniculum vulgare Miller	H	4, 5	H	F
Ferula communis L.	H	4	H	R
family: ASTERACEAE				
Aster squamatus (Sprengel) Hieron	T	4, 5, 8	F- H	A, F
Carthamus lanatus L.	T	4	F	R
Chrysanthemum coronarium L.	T	4, 5	F- H	R
Dittrichia viscosa (L.) Greuter (= *Inula viscosa* (L.) Aiton)	T	4, 5	H	R
Galactites tomentosa L.	T	4, 5	F- H	R
Inula chritmoides L.	C	2, 8	D- H	VC
Silybum marianum (L.) Gaertner	T	4	F	F
Sonchus oleraceous L.	T	4, 5	F- H	F

Sonchus tenerrimus L.	T	4, 5	G, H	R
Urospermum picroides L. Scopoli Ex FW Schmidt	T	4, 5	G	F
family: BORAGINACEAE				
Heliotropium europaeum L.	T	5	F	R
family: BRASSICACEAE (=CRUCIFERAE)				
Cakile maritima Scopoli	T	2, 3, 8	F- H	F
Diplotaxis erucoides (L.) DC	T	4, 5	F	C
Hirschfeldia incana (L.) Lagreze-Fossat	T	4, 5	F	F
Matthiola tricuspidata (L.) R Brown	T	2, 3	F- H	F
Raphanus raphinastrum L.	T	5	F	R
family: CARYOPHYLLACEAE				
Spergularia bocconei (Scheele) Ascherson & Grabner	T	4	F, H	F
family: CHENOPODIACEAE				
Arthrocnemum macrostachyum (Moricand) Morris & Delponte (=*A. glaucum* (Delili) Ungern- Sternberg)	C	2, 8	A- H	F
Atriplex halimus L.	P	2, 6, 8	D-H	VC
Atriplex prostrata Boucher ex. DC (= *A. hastata* L.)	C	2, 5	D- H	F
Beta maritima (L.) Arcangeli	T	4, 5	F- H	C
Chenopodium murale L.	T	5	F	F
Darniella melitenis (Botchantzev) Brullo (= *Salsola melitensis*)	C	4, 10	D, E	EX
Halimione potulacoides (L) Aellen	C	1, 6, 8, 11	E- H	VC
Salicornia fruticosa (L.) L.	T	1, 10	A, B	U
Salicornia ramosissima J Woods (= *S. herbaceae* Auct.)	T	1, 8	A- H	C
Salsola kali L.	T	3	D- H	F
Salsola soda L.	T	2	D- H	C

Suaeda maritima (L.) Dumort	T	1	A- H	F
Suaeda vera JF Gmelin	C	2, 8	D- H	C
family: CONVOLVULACEAE				
Convolvulus arvensis L.	T	4, 5	F	U
family: EUPHORBIACEAE				
Euphoria helioscopa L.	T	4, 5	F	U
Mercurialis annua L.	T	4, 5	F, H	F
family: FABACEAE (= LEGUMINOSAE)				
Hedysarum coronarium L.	C	4, 5	F	U
Lathyrus articulatus L.	T	4, 5	F	U
Lotus ornithopodiodes L.	T	4, 5	F, G	U
Melilotus indica (L.) Allioni	T	4, 5	F	U
Melilotus messanensis (L.) Allioni	T	1, 8	F- H	VC
Melilotus sulcatus Desfontaines	T	5	F- H	C
Scorpiurus muricatus L.	T	5	F- H	F
family: MALVACEAE				
Lavatera arborea L.	C	2, 5	F- H	F
Lavatera cretica L.	T	4, 5	F- H	R
Malva parviflora L.	T	4, 5	F, H	R
family: OROBANCHACEAE				
*Orobanche nana (*Reuter.) Noe forma *melitensis* Beck	T	4, 5	F- H	C
family: OXALIDACEAE				
Oxalis pes-caprae L.	G	4, 5	G, H	C, NA
family: PAPAVERACEAE				
Fumaria gaillardotii Boiss	T	4, 5	F	U
Fumaria muralis Sonder ex Koch (= *F. capreolata L.* var. *serotina* Gussone)	T	4, 5	F	U

Fumaria parviflora Lamarck	T	4, 5	F	U
Papaver hybridum L.	T	4, 5	F	U
Papaver setigerum DC.	T	4, 5	F	U
family: PLUMBAGINACEAE				
Limonium virgatum (Willdenow) Fourreau	C	2, 10	D, E, F	Ex
family: POLYGONACEAE				
Polygonum aviculare L.	T	4, 5	F	U
family: PRIMULACEAE				
Anagallis arvensis L.	T	4, 5	F	U
family: RESEDACEAE				
Reseda alba L.	T	4, 5	F	U
family: RUBIACEAE				
Galium aparine L.	T	4, 5	G, H	R
family: TAMARICACEAE				
Tamarix africana Poiret	P	2, 6, 8	D- H	C
Tamarix gallica L.	P	2, 6, 8	H	C, NA
family: Urticaceae				
Urtica pilulifera L.	T	4, 5	F	U
<u>Monocotyledons</u>				
family: AMARYLLIDACEAE				
Pancratium maritimum L.	G	3, 6	G, H	R
family: CYPERACEAE				
Carex extensa Goodenough	H	1, 6, 8, 11	G, H	F

family: JUNCACEAE				
Juncus acutus L.	H	4, 10	D- F	Ex
Juncus hybridus Brotero	H	4	F, H	R
Juncus maritimus Lamarck	H	2, 6, 8	A- H	C
family: JUNCAGINACEAE				
Triglochin barrelieri Loiseleur	T	1, 10	A, B, F	Ex
family: IRIDIACEAE				
Gladiolus italicus Miller	G	4	G, H	F
family: LEMNACEAE				
Lemna minor L.	FH	4, 5	H	R
family: POACEAE (= GRAMINAE)				
Avena sterilis L.	H	4, 5	F, G	U
Bromus diandrus Roth	H	4, 5	F	U
Cynodon dactylon (L.) Persoon	H	4, 5	F- H	F
Hordeum leporinum Link	H	4, 5	F- H	R
Lolium rigidum Gaudin	H	4, 5	F, G	U
Parapholis incurva (L.) CE Hubbard	H	2	F- H	F
Phalaris canariensis L.	H	4, 5	F	U
Phragmites australis (Cavanilles) Trinius ex Steudel (= *P. communis* Trinius)	H	2, 7	A- H	F
Piptatherum miliaceaum (L.) Cosson	H	4, 5	H	VC
Polypogon monspeliensis (L.) Desfontaines	H	4	F	U
Sporobolus arenarius Duval-Jouve	H	3	F	U
family: RUPPIACEAE				
Ruppia cirrhosa (Petagna) Grande (= *R. spiralis* L. ex Dumortier; = *R. maritima* sensu Borg)	SH	1, 10	B	Ex
Ruppia rostellata (Koch) Fiori (= *R. maritima* L.)	SH	1, 10	A, B	Ex

Faunal Records from il-Ballut

Table 2: List of fauna recorded from il-Ballut Reserve. **Keys to symbols (Records):** A- Caruana Gatto (1910), B- Moore & Schembri (1986); C- Lanfranco *et al.*(1989); D- Hili (1990); E- Hili (unpublished records, 1992); F- Hili (personal records, 1992); G- Mifsud, D (unpublished records); H- Bonello (1992).; I- fieldwork carried out in 2004- 2005 by JH.

			Records
<u>*Mollusca*</u>			
	Gastropoda		
		Auriculinella bidentate (Montagu) (= *Alexia kobeltii* Caruana Gatto)	A
		Hydrobiid sp.	C, H
		Ovatella firminii (Payraudeau) (= *Marinula fiminii* Payraudeau)	A
		Ovatella myosotis (Draparnaud) (= *Alexia myositis* Draparnaud)	A, H
		Paludinella littorina (Delle Chiaje) (= *Assiminea littorina* Delle Chiaje)	A
		Truncatella subcylindrica (Draparnaud) (= T. truncatula (Draparnaud))	A, H
Chelicerata	Arachnida		
	Pseudoscorpiones		
		Garypus beauvoisi (Savigny)	G
	Aranae		
		Argiope lobata (Pallas)	I
		Argiope trifasciata (Forskal)	I
Crustaceae	Amphipoda		
		Orchestia mediterranea A. Costa	B
		Orchestia montagui Audoin	B
	Branchiopoda		
		Daphnia pulex O.F. Muller	H

Copepoda	
Herpaticoidea sp.	H
Ostracoda	
Ostracoda sp	H, I
Isopoda	
Agabiformius obtusus (Budde-Lund)	D, E
Armadillidium badium badium Budde-Lund	D, E, H
Armadillidium granalatum Brandt	D, E
Armadillidium vulgare Latreille	F, H
Armadillo officinalis Dumeril	D
Armadillioniscus littoralis Budde-Lund	F
Chaetophiloscia elongata (Dooffus)	D, E, H
Halophioscia(Halophiloscia) couchi (Kinahan)	D, E
Halophioscia(Halophiloscia) hirsuta Verhoeff)	D
Halophioscia(Stenophiloscia) zosterae Verhoeff	D
Lekanesphaera hookeri mediterranea (Lejeuz)	C
Leptotrichus panzeri Audouin	D, E
Metoponorthus (Metoponorthus) pruinosus (Brandt)	D
Plathyarthu aiasensis Legrand	D
Porcellia laevis Latreille	D, E, H
Insecta	
Coleoptera	
Bembidion normannum mediterraneum Csiki	G
Dichirotrichus obsoletus Dej.	G
Tachys dimidiatus Motsch.	G
Potamonectes sp.	H
Dysticidae sp. ?	H
Berosus affinis Brulle	H
Brachygluta dentriventris (Saulcy)	G
Brachygluta simplex hipponensis (Saulcy)	G
Dermaptera	
Labidura riparia (Pallas)	G

Dictyoptera		
	Loboptera decipiens (Germ.)	H
Diptera		
	Ephydra sp.	C, H
	Culicidae sp.?	H
	Sratiomys longicornis	C
Heteroptera		
	Sigara sp.	H
Odonata		
	Anax inspirator (Leach)	H
	Crocothermis erythreae (Brulle)	H
	Ischnura geneii (Rambuir)	H
	Sympetrum fonscolombii (Brulle)	H
Orthoptera		
	Tartarogryllus burdigalensis (Latr.)	H
Amphibia		
Anura		
	Discoglossus pictus pictus Otth	H
Reptilia		
	Coluber viridiflavius carbonarus	I

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