






**Professor Ekhlas M.M. Abdel Bary**

# The *Flora* of **Qatar**

**Volume 2: The Monocotyledons**

**November 2012, Doha**

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**Volume 2:** The Monocotyledons

# Preface

The material presented in this work displays the present status of our knowledge of the flora of Qatar. This is the outcome of numerous studies, plant collections and photo documentations by academic and non-academic individuals and as well the examination of the specimens deposited at the Herbarium of the Department of Biological & Environmental Sciences, Faculty of Arts & Sciences, Qatar University.

This work is intended for a twofold function:

- To document what plants exists up to date in Qatar providing an illustrated flora with data pertaining to their taxonomy, habitat, distribution, vernacular names and local uses for scientific studies in the fields of taxonomy and ecology and for future monitoring and,

- To provide the much-needed information of the existing plants on the web.

For those who are interested to pursue further studies on the plants of Qatar, the data provided is comprehensive and set in an easy format. As far as possible each entry is supplemented with photographs of the plant that give a glimpse of the plant ***in situ*** to show its habitat and as well, close ups to highlight the details of the most diagnostic features of each species. Voucher specimens of all material exist in the Herbarium at Qatar University but some species known to occur in Qatar and were mentioned in earlier floras could neither be traced nor encountered in the numerous collection of field trips undertaken since 1993.

The flora of Qatar is set in two volumes representing the two major divisions of flowering plants. **Volume One** covers the **Dicotyledons** and **Volume Two** deals with the **Monocotyledons**. The first few pages included in both volumes incorporate a detailed introduction outlining the main features of Qatar's landform and vegetation with some changes pertaining to the contents of each volume.



# Acknowledgments

Gathering information for any inventory is a major task and I am grateful to all who provided plant material and photos and those who made this work possible.

My thanks are due to Dr. Hassan Rashid Al Dirhim, VP for Research, Qatar University, the Director of the E.S.Center, Dr. Mehsin Al-Ansi for supporting and encouraging this work and for facilities at the E.S.Center. I thank Dr. Hamda Al Naimi, Head, Department of Biological and Environmental Sciences for permission to use the Herbarium and thanks are equally due to the herbarium staff Muneera Al Mesaifri and Fatima Al Haiki for their help. I am indebted to M. Al Mesaifri for numerous field photographs included in this work and to Mr. Ahmed Abdel Aziz (Specialist, Scientific Photography at the E.S.Center) for the excellence of his work.

Mr. Khlaid A. Al Bakri, Information Officer at the E.S.Center, QU undertook the arduous task of the keep and updating of the images and the follow up with the design of both volumes. He will be responsible for the posting of the flora on the Website of Qatar University.

My sincere thanks are to Dr. Shaheena Ghazanfer at Kew Herbarium for her review of the Manuscript. Dr. Shaheena is the author of numerous scientific publications and is the author of Flora of the Sultanate of Oman. Dr. Shaheena is Head of Temperate Regional Team and Co-Editor of FTEA at the Royal Botanic Garden, Kew.

I thank Professor David Mabberly Keeper of the Herbarium, Library, Art & Archives, Royal Botanic Gardens, Kew for permission to use the Herbarium and Library and I appreciate the care and help of Dr. Shaheena Ghazanfer at Kew Herbarium and her valuable discussions. Thanks are also due to Dr. Mark Carine for arranging the visit to the Herbarium of the Natural History Museum and for his help with the genus ***Convolvulus***.

**Ekhlas M.M.Abdel Bary**
Doha, July 2012.

# About this book

No floristic work is complete. With time species names change as well as those of higher categories including families and orders and additions and corrections to taxa is a continuous process. It is now over 30 years since the most used flora (Batanouny, 1981) was published bearing in mind that the plants on which the flora was based were collected between September 1978 to April 1980. None of the specimens of the earlier collectors (Obeid (1975), Boulos (1978) and Al Amin (1983) were traced locally. Al Amin reported that a duplicate collection was deposited in Qatar at the then "newly established herbarium in Qatar". These were not traced. Equally, material mentioned in Norton et al.,(2009)was not deposited locally.  In January 2011 only very few specimens of Qatar's flora were examined at Kew including specimens collected as early 1970 by the artist Cherry Willcox. Duplicates of the collections of Obeid, Boulos and Batanouny were deposited in the Cairo Herbarium. Few specimens were received after the death of Professor M. Obeid dispatched to Khartoum by the Royal Botanic Gardens in Edinburgh, Scotland. The collection books of Professor Obeid were found in KHU (Khartoum University Herbarium).

At the local herbarium in the Department of Biological and Environmental Sciences, Qatar University, Batanouny's  specimens are kept in separate folders since on these his flora was detailed.

Attempt has been to include ALL species given in the different contributions to the flora of Qatar noting name changes and first records.  There is doubt as to the occurrence of some species in Qatar and whether these were misidentifications. Unfortunately with no herbarium material available locally, these could not be checked.

Qatar is changing the face of its mainland fast with an advanced network of roads and highways and is expanding its infrastructure. Being a very small country not much remains of the landforms particularly the depressions that supported the vegetation and harbored the limited wealth of its flora. Sooner or later this present flora will have to be rewritten or updated. Hopefully till then it will remain a working flora for those interested in the plants of Qatar.

In this book the APG III system (Angiosperm Phylogeny Group III system) is recognized and followed. Much use and reliance to update nomenclature was on the available information in the web provided by IPNI (International Plant Names Index), APNI (Australian Plant Name Index) Kew The Plant Lists, USDA Plants, and images on the web.

## Layout of Text

The description of taxa includes besides morphological descriptions, life form, habitat and distribution, origin and local names in Arabic script as well as how best they sound in English.

In the text, terminology was limited to the use of simple terms to enable non-taxonomist to follow up the given descriptions. Focus on the plates was on how the plants appear in the field and in their habitat and close ups of the main diagnostic features whether these are of flowers, fruits or seeds are included where available. Where plates are unavailable replacements in form of shadows or illustrations are included. Only scientific names are given in italics. Synonyms are included to update changes in the plant names for over 30 years in local floras. Types are not included as many websites detail them. Sectional and tribal divisions are included for selected  families.

## The Monocotyledon (Monocots)

Monocotyledonous plants may be seasonal, annual or perennials. Because of the harsh desert arid conditions, most plants have a short life span being within the range of ephemerals-annuals. Only few grasses are perennials but most grasses are annuals where part of their life is spent as a grain in the seed bank.

Habitats of the monocots are either desert pavements or one of the different landforms and, a large number of species occur as weeds. These were collected from cultivated land and gardens and would normally be growing on soils commonly fertilized either by chemical fertilizers or animal manures. Many grasses occur in depressions or sandy mounds. Depressions sometimes have clayey silty soils and sometimes sandy loam or cracking clays and usually retain rain water. They are thus a favored habitat for most wild plants particularly for the most common grass ***Stipa capensis***.

Local uses are not known for each and every species. Plants given as **Fodder** include most weed species in field, gardens and tree plantations; those given as **Range** plants include only wild species in open land. In established farms weeds are offered to those who weed the fields and they use them as fodder.

In the local herbarium there are about 600 specimens of Batanouny's collection. These are of 138 species of the 301 species described in his book of which 62 species in 52 (39 are grasses) genera are monocots belonging to 7 families in 7 orders. Most of these are represented by a single specimen but duplicates are possibly found somewhere else.

Al Amin (1983) listed the same 7 monocot families with a total of 63 species. Norton ***et al.,*** (2009) listed 8 families with a total of 76 species (64 grasses, 5 sedges, 2 reeds, 3 seagrasses (and 1 fresh water submerged plant) and 2 species in the family Liliaceae). There are no duplicates of his specimens in Qatar. Madeed (2004) did not collect specimens but documented plants by photography for his book on wild plants of Qatar. His book focuses on the Arabic names of the plants, their origin with verses or poems that describe them. The plates are of good quality. He mentions 4 monocot families and describes 21 species (15 are grasses).

## Note on the family Poaceae

The present flora includes 10 monocot families (Arecaceae, Commelinaceae, Cymodocaceae, Cyperaceae, Hydrocharitaceae, Juncaceae, Liliaceae, Poaceae Typhaceae and Zannichelliaceae ). Of these the largest is the Poaceae (Gramineae / Grasses). There are 12 subfamilies recognized in the grasses of which 6 occur in the flora: Aristidoideae, Arundinoideae, Chloridoideae, Danthonioideae, Panicoideae and Pooideae. The first two subfamilies include the tribes Aristideae (***Aristida & Stipagrostis***) and Arundineae (***Arundo & Phragmites***) respectively. The Chloridoideae is represented by the tribes Cynodonteae (***Chloris & Cynodon***) and Eragrostideae (***Aeluropus, Dactyloctenium, Desmostachys, Eragrostis, Leptochloa & Sporobolus***). Danthonioideae is represented by one tribe (Danthonieae) with one genus in the flora (***Schismus***). The remaining 2 subfamilies the Panicoideae is represented by 3 tribes (Paniceae, Andropogoneae (with 2 subtribes:Andropogoninae & Rottboelliinae) and Maydeae and, the Pooideae is with 5 tribes (Brachypodieae, Bromeae, Poeae, Stipeae & Triticeae).



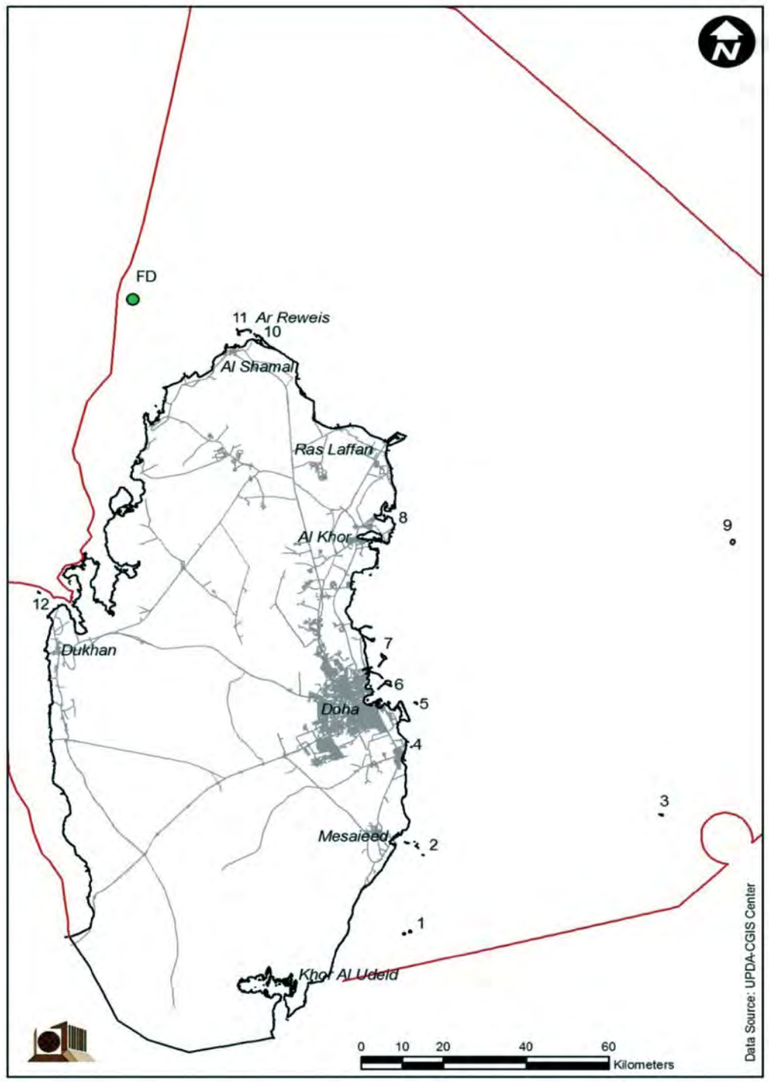
# Introduction

Qatar is an oblong-shaped peninsula lying on a north-south axis alongside the center of the eastern coastline of Saudi Arabia, separated from it by Salwa Bay on the eastern side and is attached to it by a total distance of 60 km at its most southern end (Figure 1).

Qatar is small in size with a maximum length of 185 km and a maximum width of 85 km. The latest estimate of the total length of its coastline is over 700 km attributed to the very variable nature of its coastline characterized by bays, undulations, spikes, etc. and including as well a number of jetties.

At the extreme southeastern coastline, lies the Inland Sea (Khor Al Udeid) which has been proposed as a World Heritage to preserve and conserve its uniqueness. Equally at the southern end lie the magnificent sand dunes of Qatar that line the southeastern coastline.

Twelve islands belong to the state of Qatar. These are Halul (the only inhabited island in Qatar and is the main oil export terminal), Al Besheireya, Sheraouh, Al Ashat, Al Alia, Al Safleya, Amshat (also known as Banana Island), Umm Al Far, Umm Tais, Ras Rakan, Al Nakheel and Janan. All islands except Janan are located on the east and the north of Qatar. Amshat and Al Nakheel are both artificial islands originally sand bars and in the vicinity of most islands there are sand bars of varying sizes. There are also numerous fashts in Qatar marine zone (QMZ). Fashts are raised coral reefs such as Fasht Al Debil in NW Qatar.




**Map of Qatar showing the position of the islands: 1. Halul, 2. Al Besheireya, 3. Sheraouh, 4. Ashat, 5. Al Alia, 6. Al Safleya, 7. Am Shat,8Umm Al Far, 9. Umm Tais, 10. Ras Rakan, 11. Al Nakheel and 12. Janan.**

*FD-Fqasht Ad Debil.*



## Soils and Landform in Qatar

The most detailed study on the geology of Qatar was presented by Claude Cavelier in 1970. Maps of Qatar's soils prepared for studies on aspects of the nature of the soils are patchy and in many cases focus on specific areas. However, a UNESCO (Qatar) publication (UNDP/FAO – 1973) detailing the soil types in Qatar is available.

Historically the land of Qatar is considered as 80% of Tertiary deposits and 20% Quaternary & Recent deposits. Paleozoic era deposits were only detected in Halul Island and Sheraouh Island. Sabkhas, sand accumulations, calcareous sands, sand terraces, etc. are all features of a Recent Age.

Qatar is basically flatland with slight undulation and a tilt from the west (Jebal Dukhan) towards the east. Any land feature that exceeds 60-70 m in height is referred to as a jabal (Ar. for hill/mountain). The land rises to a maximum of 103 m at one point only north of Sudanathil known as Taur Al Humair and is below surface at 6 m at Khor Al Udeid (a total relief of 109 m). Qatar's mainland is a stony desert with depressions of varying sizes and areas of rocky outcrops.

Landform classification as given by Batanouny (1981), details 6 landform types and later on gives 12 different landform types (Batanouny, 1986). In Abulfatih ***et al.***, (2001) seven physiographic and soil type regions were recognized: Rocky desert, Depressions and seasonal waterways, Salt flats and salt marshes, Sand formation, Intertidal areas, Islands and Cultivated land. Detailed studies on sabkhas (salt pans) and sand dunes in Qatar (both in Arabic) were undertaken by M.M.Ashour ***et al.***, and N.S.Umbabi and M.M.Ashour in (1983) and 1983, 1983 (2 parts) respectively.

The main recognized landforms are rocky and conglomerate hamdas (stony ground) and rocky ridges (together forming 87.86% of Qatar's mainland), depressions (including shallow depressions and deep depressions form 2.44%; sabkha formation is estimated as 6.06% and sand dunes form 3.12% of Qatar's mainland.

Qatar soil types, their total areas and percentages

| Serial number | Soil Category | Series | Area in hectare | Percentage |
|---|---|---|---|---|
| 1 | Rawda Soils | A | 23100 | 2.05 |
| 2 | | A | 4520 | 0.39 |
| 3 | Sabkha Soils | B | 6517 | 0.58 |
| 4 | | B | 63607 | 5.48 |
| 5 | Stony/Rocky Soils | C | 958072 | 82.44 |
| 6 | | C | 62925 | 5.42 |
| 7 | Sandy Soils | D | 4775 | 0.42 |
| 8 | | D | 31392 | 2.70 |
| 9 | Cultivated land | | 6057 | 0.52 |
| 10 | Total | | 1160965 | 100.00% |

**Source: M.H.Mudkur & S.M.Al Sheik (1973).**

Generally the landform includes jabal formations, sand dunes and sabkhas which together contribute to near 15% of the mainland. Meanwhile, the main soil type [stony fragments impregnated with wind-blown sands and rocky outcrops] contribute to over 85% of the mainland.

## Natural vegetation

Natural vegetation is sparse and confined to specific landforms. Most of the year round few trees and shrubs exist in depressions, along runnels and wadis. There are 9 trees in Qatar: ***Prosopis cineraria*** (Ghaf) an endangered species, ***Acacia ehrenbergiana*** (Salam), ***Acacia tortilis*** (Samr), ***Ziziphus nummularia*** (Sidr), ***Ziziphus spina-christi*** (Areen), the two epiphytes: Cocculus pendulus (Kheneiq) and the gymnosperm ***Ephera foliata*** (Alanda), the mangrove ***Avicennia marina*** (Qarm) and the naturalized invasive species ***Prosopis juliflora*** (Ghuweif).



## Grasslands in Qatar

Grasslands are either composed of salt tolerant grasses such as ***Aeluropus*** and ***Sporobolus iocladus*** which could form pure stands or are mixed with few halophytic taxa such as ***Limonium axillare***. These are usually coastal vegetation benefiting from the sea spray or few are on inland sabkhas. Perennial grasses, sedges and reeds of saline soils include ***Sporobolus ioclados*** (Sukham), ***Aeluropus lagopoides*** (Ikrish), ***Cyperus conglomeratus*** (Rasha), and ***Juncus rigidus*** respectively.

**Coastal vegetation dominated with *Cyperus conglomeratus* on sandy soils forming dense growth (Ras Laffan NE Qatar).**

Inland grasslands are variable. ***Cymbopogon commutatus*** forms pure stands in shallow depressions with hard compact sandy soils. ***Panicum turgidum*** grows best on sandy mounds and spreads across the mounds sometimes for almost 2 m across. These may be near coastal areas or on hilly grounds such as Dukhan jebels where wind-blown sands are stabilized by the plants. Inland sand dunes usually have

perennial grasses growing on their lower zones. There are few perennial grasses in Qatar which occur inland on sandy soils and include ***Panicum turgidum*** (Thumam), ***Pennisetum divisum*** (Thaymoom) ***Cymbopogon commutatus*** (Askhabar), ***Lasiurus scindicus*** (Daa), ***Chrysopogon*** species (Kureiz) and ***Dichanthium*** species (Halta).

**Depression with compact sandy soils and with the perennial grass** *Cymbopogon commutatus*. Note barren surroundings (red arrow)

At Dukhan, a very distinct zonation pattern is attributed to altitude, soil type and plant species.

**Panicum zone is quite distinct on the lower strata of the Dukhan jabals.**



## The Stony Desert

The stony desert also known as desert pavement (Barr Qatar/Hamad (Ar.)) is the dominant feature of Qatar's mainland. Hamad (Ar.) means the land that is unproductive/ unfruitful since its composition is stony fragments and pebbles (Hassa (Ar.)).

The stony desert varies in its composition and general features from one location to another. In some areas the whole stretch of land is covered with small fragments and is barren.

**View of a barren stony desert (20 km N. of Al Khor).**

Some areas are covered with different shaped and coloured pebbles on top of a sandy firm ground; other sites are composed of rock fragments and fragments of fossil gastropods or coloured pebbles. Stony outcrops are equally common and may be barren or sometimes covered with crustose lichens.

**Fossil gastropods and stony fragments.**

**Coloured pebbles on compact sandy soil.**


**Crustose lichens on limestone rock.**

Though these are mostly barren, there exist desert plants thriving on the scanty soils trapped in-between the stony fragment. Further, within this harsh landform, natural and man-made depressions of various depths retain enough rain water to sustain growth of annuals and a few woody species. However, plant cover is generally sparse and limited in species richness.

## Shallow Depressions

The most common shallow depressions are roadside depressions. In Doha and main towns, roadside depressions are usually with rubble and few individuals of low woody species. Along the main network of the roads recently constructed are various depressions varying in sizes, depths, soil composition and plant species.

Low depressions retain rain water and support few shrubs and short-lived perennials. ***Pulicaria undulata*** is common in shallow depressions that retain rain water for longer periods. However, the most common species is the succulent xerophyte undershrub ***Tetraena qatarense*** deserving the country's sake name in being the most common plant in Qatar. Both species are dicots.

Perennial grasses and the widespread annual grass ***Stipa capensis*** are common in shallow depressions.

**Shallow depression with wind-blown sands and plant growth dominated by perennial grasses (S. Al Wekeir).**

**Stony desert with *Acacia tortilis* scrub and *Stipa capensis* grass in shallow depression.**

## Roda/Rawda Depressions

A deep depression is referred to as a roda/rodah/rawdas/rawda/rawdat (Pl.). These may reach a maximum depth of 1.5 m and are filled with fine soil and rain-washed litter and are the best naturally occurring well-drained sandy-loamy soil in Qatar. They support the few large trees occurring in Qatar as well as undershrubs and seasonal growth.

Rawdas are scattered all over Qatar but are more frequent on the northeastern side of the mainland. In the past their fine soils were removed to use in farmlands. Gratefully, the Ministry of Environment (MoE ex Supreme Council for the Environment and Natural Reserves) set rules prohibiting removal of soils.

**Rawda depression with mature *Ziziphus* trees and a dense ground cover of *Convolvulus prostratus* and grass weeds in S. Qatar.**

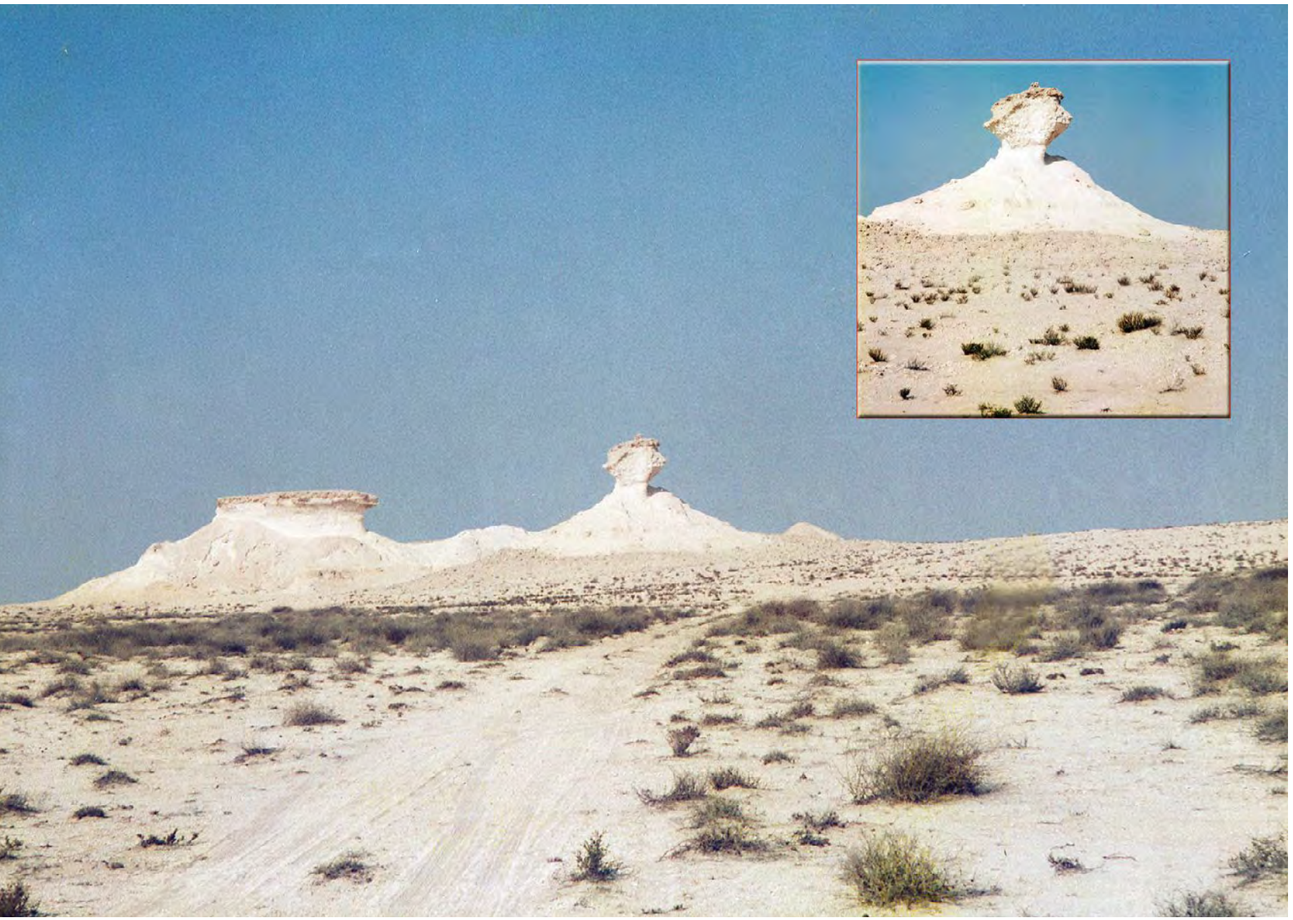
## Sand Dunes

Sand dunes in Qatar are either of marine origin characterized by the presence of shell fragments mixed with calcareous coarse sands or of land-origin and wind-blown recognized by their high content of quartz and variable sand grains. The sand dune fields near Mesaieed are referred to as the Nijyan and are Aeolian sands. Crescent-shaped sand dunes are referred to as Barchans.

**Sand dunes in S. Qatar: with a sabkha depression (above) and next to the sea (below).**

## Rocky outcrops, hilly ground and Dahl formations

Hilly ground varies in altitude and bedrock formation. Most bedrock in Qatar is limestone. Dukhan jebels are in the range of 40 – 80 m high. In the vicinity of Zikreet, Mesa (Table formation)) are common and are highly eroded. All the lower strata are constituted of soft limestone and are wind eroded leaving the hill exposed with the top more compact surface in tact thus creating the characteristic "figures" of Zikreet jebels.



**Limestone highly eroded at Zikreet.**

The dissolution of layers of the soluble limestone bedrock is due to a process referred to as Karst which results in the appearance of sinkholes or dolines. Rain combines with atmospheric $CO_2$ and forms a weak carbonic acid which dissolves the limestone (Calcium carbonate) causing its dissolution. As the limestone bedrock dissolves a void is created which leads to the collapse of the upper surface. Collapsing earth sometimes forms sinkholes referred to as Dahl (Ar.) which are in fact shallow caves. In some dahls rain water is retained forming small pools. Dahl Al Haman in Doha is locally well known and is inhabited by feral pigeons.

**Views of Dahl Al Hamam, Doha, Qatar.**

In S. Qatar, hilly ground extends over a very large area. Wind erosion exposes the soft sandy lower strata and with time the top surface collapses creating large excavations. With time wind-blown sands settle in these and they may support annual growth and few woody species.

**Large shallow depressions with good plant cover after the seasonal rains. Surrounding higher grounds are barren (S. Qatar).**

## Wetland

All wetland in Qatar are freshwater ponds of recycled water. These ponds support by their edges dense growth of reeds, ***Tamarix*** and species of disturbed locations. The water attracts many species of birds that feed on their organisms. The largest freshwater pond is at Abu Nakhla and is outside Doha. Smaller ponds of recycled sewage are in all large towns.

**Phragmites reeds are common in water ponds: Above at Abu Nakhla and below in the vicinity of Ras Al Matbakh.**

## Sabkhas

Salt pans are known as sabkhas. Along the northeastern coastline, higher grounds representing the edge of the stony desert may end abruptly in a sabkha depression. These sabkhas are barren and gradually integrade into a vegetated sabkha, creeks and a mangrove forest beyond which lies the open sea. Such land formation occurs at Al Dhakhira on the northeastern coasstline of Qatar.

**A view showing the gradation from the raised stony desert via a barren sabkha, to a vegetated sabkha with creeks and beyond the mangrove forest lies the open sea.**

Sabkhas common along the coastline maybe vegetated with halophytes or when hyper saline, they are barren. The vegetated sabkhas vary in their species richness and species abundance. They may be with over 80% cover and composed of a single species.

The majority of the local halophytic species are members of the dicot family Amaranthaceae Subfamily Chenopodioideae. *Halopeplis perfoliata* stands as the most tolerant species of high salinity as compared to other halophytes and can form pure stands in sabkha depressions.

**Sabkha with *Halopeplis perfoliata* community (Ras Laffan, NE Qatar).**

## Mangrove Forests

Naturally occurring and planted mangrove woodlands occur along the northern and eastern coastline in the intertidal zone at locations where the substrate is of a muddy-clayey sandy constitution. Only one mangrove species occurs in Qatar and is ***Avicennia marina*** [Garm (Ar.)]. Naturally occurring mangroves are few. In the eighties the Ministry of Municipality and Agriculture embarked on mangrove plantation all around the coastline of Qatar. Success was mainly on the northeastern coastline (Al Dhakhira, Al Khor, Fewairet, Al Wakra and Ar Reweis) and poor growth was at a number of locations. Unsuccessful plantations were attributed to the nature of the sediment or higher salinity of the seawater (the southern and the western coastlines). Very dense mangrove forests are at Al Dhakhira and Fewairet. Those

**First stages in the establishment of a natural mangrove forest.**

**Mangrove forest established with a large network of pneumatophores (breathing roots).**

at Al Reweis (by the Port) and at Al Wakra have since been removed. Mature mangrove saplings, bushes or trees cannot be transplanted because of their intricate anastomosing network of their root system. Establishing mangrove growth in Qatar is only practiced by seedling plantations.

Mangroves form an extensive cable network of breathing roots known as pnuematophores.



## Seasonal rains and annual growth

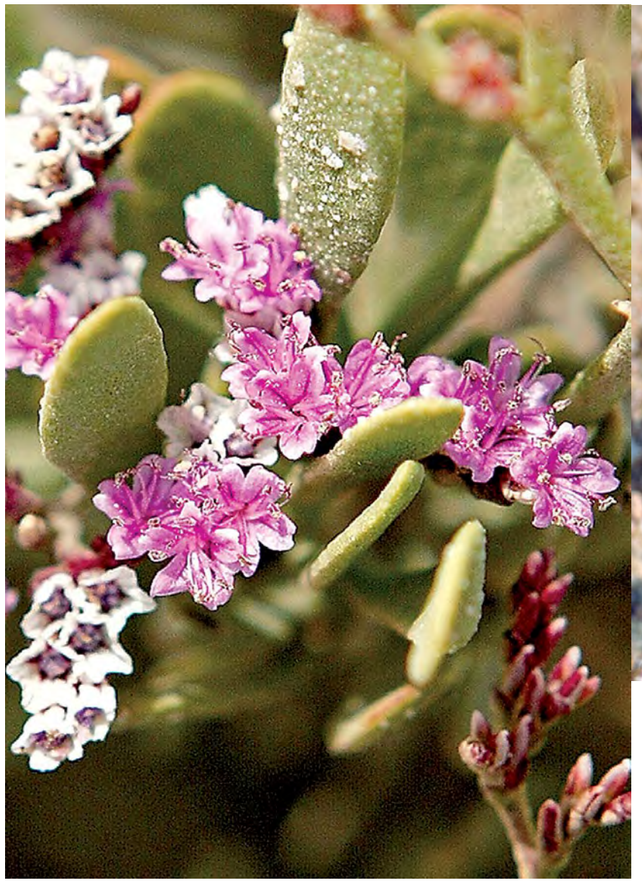
Qatar is classified as a hot subtropical desert (Meigs, 1953) and experiences very harsh arid climatic conditions in summer. The short winter period brings rains, coolness and growth of desert annuals. Though rains are erratic and scanty, they result in drastic changes of scenery in the desert and all forms of life surviving on it.

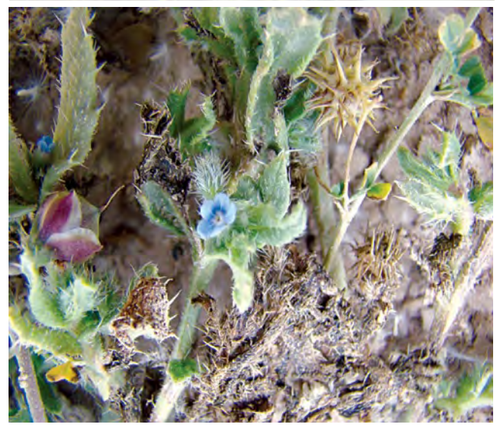
Perennials produce new shoots and last season's seeds germinate. Ephemerals and annuals grow and flowers producing various colors and shapes in shallow and deep depressions and on the few cm of trapped soil in the crevices of the stony desert.

**First seasonal rains in 2011- 2012 rainy season (Al Jumailia, Qatar).**

## Desert flowers of Qatar

Winter time is when the arid desert becomes colourful. Trees, shrubs, herbs and grasses bear flowers of various shapes and colour.





The cool winter is also a time for family recreation. Locals camp in tents all over Qatar to enjoy the scenery, greenery and the coolness of the weather. People of all ages usually group as families and friends during the spring season in search of Nature's gifts in the form of the much priced Faqaa (the desert truffles), Atar/Yarawa (fruits of ***Glossonema varians***) and edible leaves of Huwa (Launaea capitata) and Malbo (***Convolvulus prostratus***).

**Gifts from the desert (Yarawa, Huwa and Fagaa the desert truffles).**



The winter season with its short spell of coolness and availability of seeds and fruits brings to Qatar a large number of migrant birds: some passing over and others to breed on the coastline, coastal woodlands and the uninhabited islands. All islands have been reported as nesting grounds for local birds and migrant birds. Terns (***Sterna*** spp.) nest on Amshat Island (Banana Island) and Al Besheireya Island. Herons nest on Al Besheireya and Socotra cormorants nest on Al Alia Island. Al Alia Island is a nesting location for the Socotra cormorant. At the same period flamingoes, seagulls, herons and terns may be encountered feeding on the shallow waters in the vicinity of the island. Umm Al Far Island, near Al Dhakhira, is also known as a nesting location.

**Eggs of the Reef Heron in their characteristic high nests (Al Beshireyia Island, Qatar).**

**Chick and an egg of *Sterna* which nests on stony ground (Al Beshireya Island, Qatar).**

## Overgrazing

**Overgrazing by goats and sheep causing total degradation of a coastal sandy dune which was vegetated with *Cyperus conglomeratus* on coastal sands.**

Qatar is a country with a wealth of domestic animals particularly camels, goats and sheep. These animals are fed most of the year round. However, locals believe that grazing on natural range plants improves their animals' health. During the season of plant growth animals graze on the natural vegetation. There is no doubt that some practice of range management is necessary since the natural vegetation cannot sustain the continuous increase in the numbers of domestic animals and the adverse effects of over grazing are evident at some locations. Recently a law has been passed prohibiting grazing on natural vegetation. There is no doubt this will improve the situation of the natural vegetation in the near future.

## Invasive species in Qatar

***Prosopis juliflora*, Pennisetum setaceum**

Over the years a number of exotic plants have been introduced to Doha City and other major towns. Few of these woody species have since managed to establish themselves along various roadside routes in Qatar. ***Prosopis juliflora*** is the most invasive species which have since appeared outside towns mainly by roadsides of highways and is now found in all types of habitats. The species is well known as an invasive species and is now included in the flora as a naturalized species.

Recently the grass ***Pennisetum setaceun*** has been planted everywhere in Doha. The species appears in two forms of green and purple variants, is wind pollinated and wind dispersed. As expected it is now self-setting wherever a water source is found in Doha.



## Flowering plants in the flora of Qatar

The Flowering plants are of 2 groups commonly known as the Dicotyledons and the Monocotyledons based on the number of cotyledons (seed leaves) inside the seeds which appear when the seeds germinate.

The Dicotyledons (dicots) are the Class Magnoliopsida with 6 subclasses:

**1. Magnoliidae, 2. Hamamelididae, 3. Caryophyllidae, 4. Dilleniidae, 5. Rosideae and, 6. Asteridae.**

The Monocotyledons (monocots) are flowering plants considered as more advanced than the Dicotyledons. They are commonly recognized as of 3 distinct groups:

1. **Those with different coloured perianth: commonly green sepals and coloured petals,**
2. **Those with a perianth of tepals (both of same colour) and,**
3. **Those without petals or sepals but a perianth modified into bracts or scales or are with naked flowers.**

Taxonomically the monocots were known as the Class Liliopsida of the Angiosperms or flowering plants and comprised 5 subclasses:

**1. Alismatidae with 4 orders and 16 families, 2. Arecidae with 4 orders and 6 families, 3. Commelinidae with 7 orders and 16 families, 4. Zingiberidae with 2 orders and 9 families and 5. Liliidae with 2 orders and 19 families.**

Ten families have been recorded in the flora of Qatar. The majority of the recorded species belong to the grass family Poaceae (Gramineae). These are the grasses with their special fruit known as grain where the seeds are part of the pericarp (fruit). Grains are not seeds though treated as seeds. Beside the grasses, species richness is low, usually 1-3 species in a genus. The 10 monocot families are as follows:

**Hydrocharitaceae, Cymodoceaceae, Zannichelliaceae, Liliaceae, Juncaceae, Palmae, Typhaceae, Commelinaceae, Gramineae = Poaceae and the Cyperaceae.**

Floras worldwide are arranged according to one of the renowned systems. Systems including those of Engler and Prantl, Hutchinson and Cronquist are based mainly on morphological characters with additional information such as phytogeography, ecology. etc. Recently systems are based on more substantial information i.e. their core constitution – genetics - being a more diagnostic stable character.

Herbaria worldwide are now reshuffling their earlier arrangements to follow the **APG III** system agreed upon by the Angiosperm Phylogeny Group.

The flora of Qatar is a small flora up to date not exceeding 440 species of mostly annual and ephemeral desert species and a number of weeds. In 1981, Batanouny in his "Ecology and Flora of Qatar" followed

the system of Engler and Prantl. He recognized orders, families and within each family he followed an alphabetical order for genera and species. In 1982, Al Amin followed an alphabetical order throughout. Equally in neighboring Saudi Arabia, Al Hadidi and Collenette followed an alphabetical order.

In the newly accepted **APGIII** system the earlier classification of flowering plants has changed particularly at the higher categories. These have been included in this book. However for ease of use to all those seeking plant names of Qatar's flora, an alphabetical order based on families is followed.

Of the clades and orders in the **APGIII** system prescribed for the monocotyledons, the species in the flora of Qatar fall under 10 families belonging to 5 orders.

Within the Clade Monocots, the Order Alismatales with 3 families (Cymodoaceae, Hydrocharitaceae and Potomogetonaceae) and the Order Liliales with only one family. Within the Clade Commelinids, 3 orders with 6 families occur in the flora. These are: Arecales (Arecaceae), Commelinales (Commelinaceae) and Poales with 4 families: Cyperaceae, Juncaceae, Poaceae and Typhaceae.

Of all these families the maximum representation in species number is the family Poaceae. Tribal classification is included in the description of the taxa. An alphabetical order of the tribes is followed for the grasses.



# A Note on the Monocotyledons in Plant the Kingdom

The Plant Kingdom comprises the Bryophytes, the Ferns, the Gymnosperms and the Flowering Plants.

In the flora of Qatar, there is one species of each of the first 3 groups which collectively are referred to as the non-flowering plants and about 400 species of flowering plants.

The Bryophytes are non-vascular plants including the Hornworts, the Liverworts and the Mosses. The Ferns include the Whisk ferns, the Club mosses, the Horsetails and the ferns. These have a vascular system but do not produce seeds (except for the seed ferns).

The Gymnosperms have a more advanced vascular system. They are non-flowering but they produce seeds. The gymnosperms comprise the Cycads, Ginkgoes, Conifers and the Gnetophytes.

## Non-flowering plants in the flora of Qatar

### The Bryophytes

Desert and arid conditions as are experienced in Qatar do not support the growth of bryophytes which need moist habitats to flourish. Yet one moss species – Funaria, a cosmopolitan species was collected from various locations during the rainy season including nurseries, potted plants and surfaces of clay water pots.

**Moss *(Funaria)***

## The Ferns or Pteridophytes

Only one species was recorded in Qatar. Ophioglossum polyphyllum occurs on wind-blown sands in central and on coarse sands in northeastern Qatar. Throughout its records it occurs on high mountains whereas in Qatar it is encountered at 20 – 40m above sea level.

**Fern *(Ophioglossum polyphyllum)***

## The Gymnosperms

Only one gymnosperm species is recorded in Qatar. Ephedra foliata is relatively rare and occurs in rawda depressions in Central Qatar. Ephedra is much favored by camels. It can only be detected by its rope-like twined stem below the trees on which it is an epiphyte.

**Gymnosperm *(Ephedra foliata)***



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Clade
**Monocots/ Commelinids**

Order
**Arecales**

Family
**Arecaceae**

Scientific Name
***Phoenix dactylifera*** L., Sp. Pl., ed. 1, 1188 (1753).

Habit
Perennial palm.

Description
Palm trees with very large stiff pinnate leaves similar to cultivated dates, more leafy and with poor fruit production and extensive suckering.

Habitat
Coastal saline sandy soil .

Distribution
Large community at Umm Bab (Al Hamala), sporadic S. of Al Reweis.

Ind/Exo/Cult
Indigenous.

Local Use
Range plant (Camels graze on leaves).

Nakeel; نخيـــــل

Clade
**Monocots/ Commelinids**

Order
**Commelinales**

Family
**Commelinaceae**

Scientific Name
***Commelina benghalensis*** L., Sp. Pl., ed.1, 41 (1753).

Habit
Perennial herb.

Description
Decumbent-creeping herb rooting at the nodes; leaves clasping the stem broadly lanceolate. Flowers in axillary congested cymes, blue with fertile and sterile yellow stamens, subtended by boat-shaped bract; fruit 1-2-seeded capsule.

Habitat
Garden soil.

Distribution
A newly introduced weed spreading by seeds and by rooting at the nodes in gardens and fields; hardly eradicated because of its attractive flowers. Frequent at Al Shahaneeya farms and Doha gardens.

Ind/Exo/Cult
Introduced possibly with ornamentals.

Local Use
Ornamental

Ibreeq al faki (not a local name); إبريق الفكي (إسم غير محلي)

Clade
**Monocots**

Order
**Alismatales**

Family
**Cymodoceaceae**

Scientific Name & Syn.
***Halodule uninervis*** (Forssk.) Asch. In Boiss.,Fl. Orient.5:24 (1882).

Syn.
Zostera ***uninervis*** Forssk., Fl. Aegypt.-Arab. CXX 157 (1775).

Habit
Perennial seagrass.

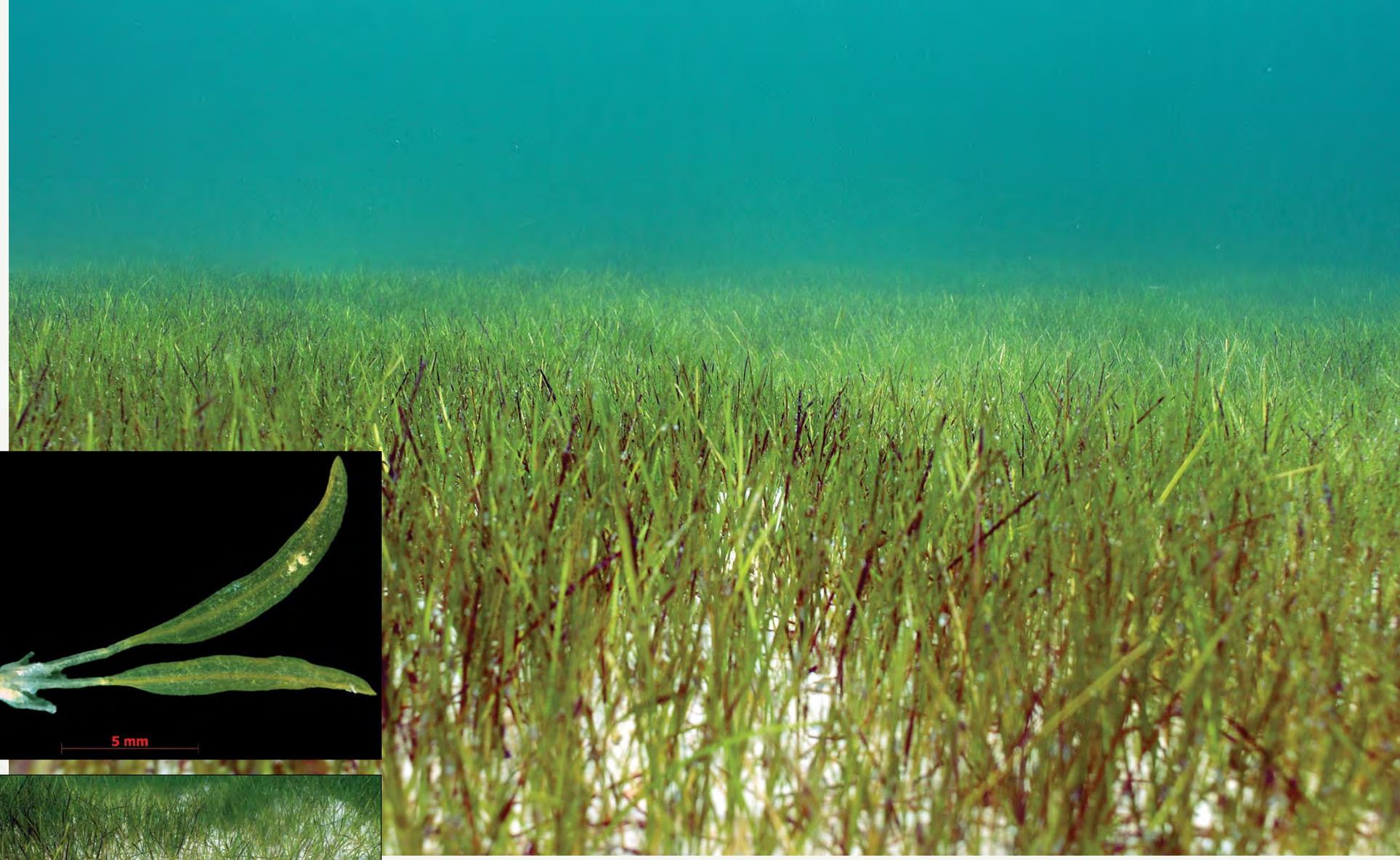
Description
Seagrass with long rhizomes giving linear leaves at nodes.

Habitat
Marine; in shallow depths.

Distribution
Widespread seagrass at shallow depths forming dense meadows.

Ind/Exo/Cult
Indigenous.

Local Use
Important habitat and feed for marine organisms.

# Hasheesh bahri; حشيش بحري

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Cyperaceae**

Scientific Name & Syns.
***Bolboschoenus glaucus*** (Lam.) S. G. Smith, Novon. 5:101 (1995).

Syns.
***Scirpus tuberosus*** Desf., Fl. Atlant. 1:50 (1798);
***Scirpus maritimus*** many authors

Habit
Perennial sedge.

Description
Sedge giving upright shoots from a creeping rhizome; culms triangular; spikes digitate, congested.

Habitat
Wetland.

Distribution
Rare in Qatar reported at Ras Ushirij as associated with ***Typha***.

Ind/Exo/Cult
Introduced.

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Cyperaceae**

Scientific Name & Syns.
***Cyperus conglomeratus*** Rottb., Descr. Pl. Rar. Progr. 16 (1772).

Syns.
***Cyperus jeminicus*** Rottb., op.cit. 24, ***C. effusus*** Rottb. Op.cit. 16, ***Cyperus conglomeratus*** Rottb. var. ***aucheri*** (Jaub. & Sp.) C. B. Clarke (1895); var. ***effuses*** (Rottb.) Kukenth (1936); var. ***multiculmis*** (Boeck) Kukenth (1936).

Habit
Perennial sedge.

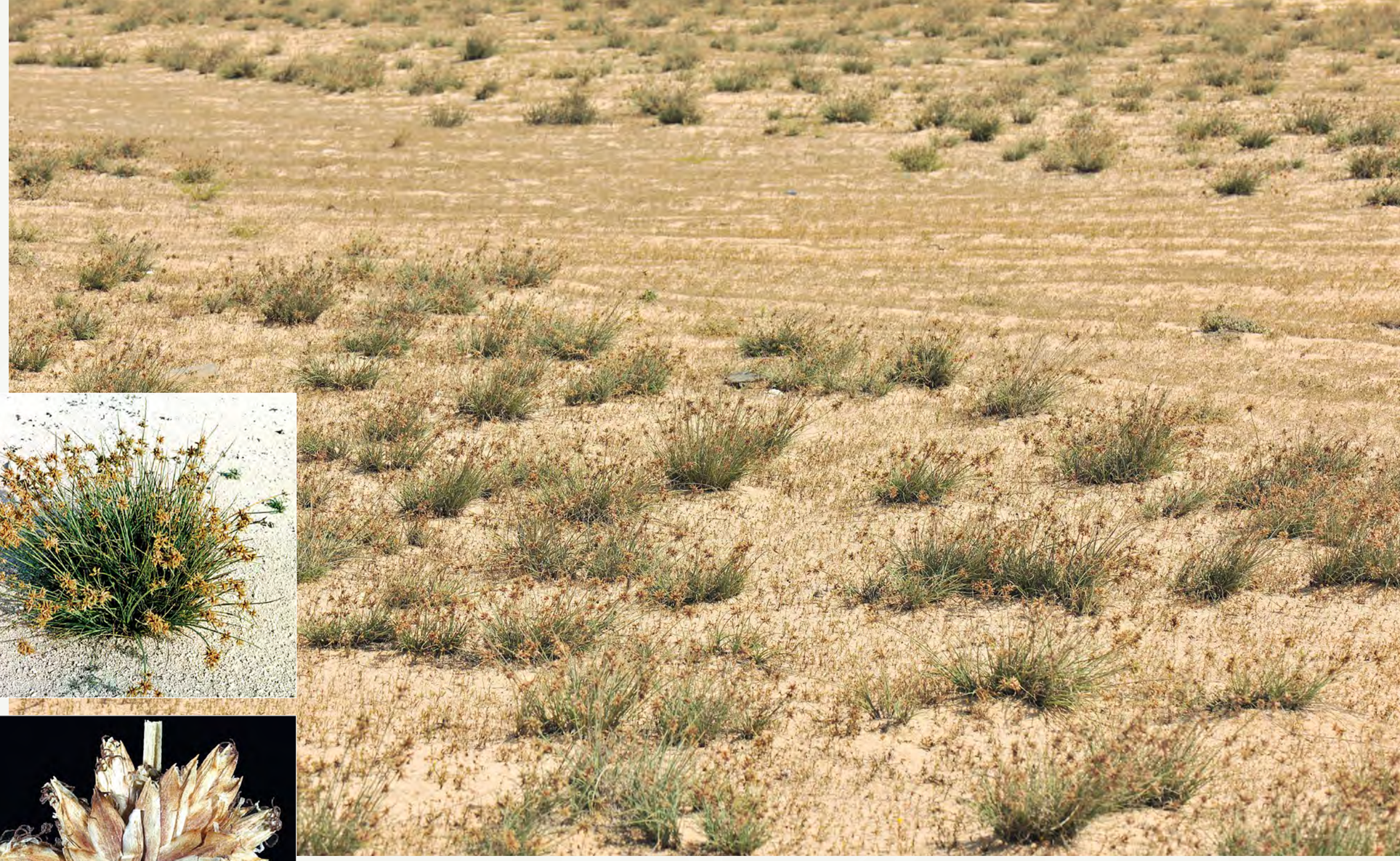
Description
Variable sedge recognized as 3 distinct varieties based on the number and width of the spikelets: var. ***aucheri***, var. ***effuses*** and var. ***multiculmis*** which is the most common with rhizomatous stiff clumps and tillers; culm 3-sided; spikes terminal, digitate, compact; fruit nutlet.

Habitat
Saline sandy soil.

Distribution
Widespread in coastal areas with sandy soil; occasional on roadsides where moisture is available and soil salinity is high.

Ind/Exo/Cult
Indigenous.

Local Use
Range sedge.

Rasha, Tunda; رشا، تنده

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Cyperaceae**

Scientific Name
***Cyperus laevigatus*** L., Mant. Alt. 179 (1771).

Habit
Perennial sedge.

Description
Rhizomatous sedge with 3-sided culms and forming tillers; spikes compact heads borne sideways; spikelets minute; fruit nutlet.

Habitat
Moist-wet areas.

Distribution
Near water (pumps) in agricultural fields; Abu Samra.

Ind/Exo/Cult
Introduced.

Local Use
Fodder sedge.

Saed; سعـــد

**Clade** **Monocots/ Commelinids**

**Order** **Poales**

**Family** **Cyperaceae**

Scientific Name

***Cyperus rotundus*** L., Sp. Pl., ed. 1, 45 (1753).

Habit

Perennial sedge.

Description

Sedge with glossy leaves and terminal branched inflorescences; stolon terminates in small dark corms deeply buried in the soil.

Habitat

Garden soil and agricultural fields.

Distribution

Common notorious weed of agriculture and gardens difficult to eradicate because of the corms.

Ind/Exo/Cult

Introduced with garden soil.

Local Use

Mowed with lawn grasses and used as fodder.


Saed; سعـــد

Clade
**Monocots**

Order
**Alismatales**

Family
**Hydrocharitaceae**

Scientific Name & Syns.
***Halophila ovalis*** (R.Br.) Hook. f., Fl. Tasman. 2:45 (1858).

Syns.
***Caulinia ovalis*** R. Br. (1810); ***Kernera ovalis*** (R.Br.) Schultes (1829); ***Halophila linearis*** Den Hartog (1956).

Habit
Perennial seagrass.

Description
Dioecious submerged seagrass with opposite ovate leaves; male flowers pedicellated, female flowers sessile.

Habitat
Marine; in shallow depths.

Distribution
Least common seagrass at shallow depths.

Ind/Exo/Cult
Indigenous.

Local Use
Important habitat and feed for marine organisms.


Hasheesh bahri; حشيش بحري

Clade
**Monocots**

Order
**Alismatales**

Family
**Hydrocharitaceae**

Scientific Name & Syns.
***Halophila stipulacea*** (Forssk.) Asch., Sitzb. Naturf. Freunde Berlin 3 (1867).

Syns.
***Zostera stipulacea*** Forssk., Fl. Aegypt.-Arab.158 (1775); ***Thalassia stipulacea*** (Forssk.) Konig (1805); ***Halophila balfourii*** Solereder (1913).

Habit
Perennial seagrass.

Description
Dioecious submerged seagrass with rhizomes and rooting at the nodes; leaves oblong-lanceolate; stipules transparent.

Habitat
Marine; in shallow depths.

Distribution
Common seagrass at shallow depths.

Ind/Exo/Cult
Indigenous.

Local Use
Important habitat and feed for marine organisms.



# Hasheesh bahri; حشيش بحري

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Juncaceae**

Scientific Name
***Juncus rigidus*** C. A. Mey., Pl. Atland. 1:32 (1798).

Habit
Perennial rush.

Description
Rush with dense growth from a strong rhizome; culms cylindrical; flowers unlike grasses are of sepals and petals, glumaceous and appear set sideways; fruit nutlet.

Habitat
Saline sandy soil.

Distribution
Coastlines and swamps of brackish water and wetland.

Ind/Exo/Cult
Indigenous.

Local Use
Range plant.

Rasha, Tanda; رشا، تنده

Clade
**Monocots**

Order
**Liliales**

Family
**Liliaceae**

Scientific Name & Syn.
***Asphodelus tenuifolius*** Cav. Anal. Ciene. Nat. 3:46, t 27f.2, (1801).

Syn.
***Asphodelus fistulosus*** L. var. ***tenuifolius*** (Cav.) Baker, J. Linn. Soc. London (Bot.) 15:276 (1876).

Habit
Annual herb.

Description
Slender herb with fibrous roots and basal linear leaves; flowering scape branched with 10-20 flowers; tepals glossy, white with red stripes; fruit globose-ovoid capsule.

Habitat
Sandy loamy soil.

Distribution
Widespread occurring in aggregations in shallow depressions and an occasional weed of fields.

Ind/Exo/Cult
Indigenous.

Brough, Unsul; برق، عنصل

Clade
**Monocots**

Order
**Liliales**

Family
**Liliaceae**

Scientific Name & Syn.
***Dipcadi erythraeum*** Webb & Berthel., Phyt. Canar. 3(2):341 (1848).

Syn.
***Hyacinthus serotinus*** Forssk., Fl. Aegypt.-Arab. Suppl. 209 (1775), non L. (1753).

Habit
Perennial herb.

Description
Bulbous herb with onion-like white bulb; leaves 2-3, long, linear-lanceolate with lower ends partly buried in the sand. Flowers on short scape, few, of 6 maroon tepals.

Habitat
Sandy stony soil.

Distribution
Widespread occurring sporadic among limestone fragments covered by fine sand in sandy depressions; common in the vicinity of Dukhan-Umm Bab.

Ind/Exo/Cult
Indigenous.

Local Use
Bulbs edible.

Mesailemo, Besailemo; مصيلمو، بصيلمو

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Subtribe Andropogoneae: Andropogoninae**

Scientific Name & Syn.
***Chrysopogon gryllus*** (L.) Trin., Fund. Agrost., 188 (1820).

Syn.
***Andropogon gryllus*** L., Cent. Pl., 2 : 33 (1756).

Habit
Perennial grass.

Description
Tussock-forming grass hardened and stunted by excessive grazing forming dark cushions; dry most of the year round and producing new growth with onset of the rainy season.

Habitat
Sandy mounds and in runnels and slopes on dry rocky ground.

Distribution
Central and south Qatar.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass heavily grazed by camels.


Gharaz, Akkar, Halta; غرز، عكر، هلتا

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Subtribe Andropogoneae: Andropogoninae**

Scientific Name & Syns.
***Chrysopogon plumulosus*** Hochst. ex A. Rich., Tent. Fl. Abyss. 2:450 (1850).

Syns.
***Chrysopogon quinqueplumis*** Hochst. ex A. Rich.; ***Chrysopogon aucheri*** var. ***quinqueplumis*** (Hochst. ex A. Rich.) Stapf. Bull. Misc. Inform., Kew 1907:21 (1907).

Habit
Perennial grass.

Description
Tussock-forming grass with open lax golden panicles. Spikelets one sessile and a pair pedicellated with bent plumed awns.

Habitat
Sandy soil in runnels and shallow depressions.

Distribution
Occasional in N. and C. Qatar.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.

Gharaz, Akkar, Jarm, Selian; غرز، عكر، جرم، صليان

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Subtribe Andropogoneae: Andropogoninae**

Scientific Name & Syn.
***Cymbopogon commutatus*** (Steudel) Stapf in Kew Bull. 1907:211 (1907).

Syn.
***Cymbopogon parkeri*** Stapf in Kew Bull. 1929:10 (1929).

Habit
Perennial grass.

Description
Aromatic tussock-forming grass with spongy adventitious roots and usually curly basal leaves; culms long ending in lax panicles. Spikes raceme-like, light green with awned spikelets.

Habitat
Compact sandy soil.

Distribution
Widespread forming pure stands in depressions with compact sands. Common by roadsides and in fields.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass and a herbal medicine.

# Askhabar; أصخبر

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Subtribe Andropogoneae: Andropogoninae**

Scientific Name & Syn.
***Dichanthium annulatum*** (Forssk.) Stapf in Prain, Fl. Trop. Afr. 9:178 (1917).

Syn.
***Andropogon annulatus*** Forssk., Fl. Aegypt.-Arab. 173 (1775).

Habit
Perennial grass.

Description
Robust tussock-forming grass with slender inflorescences; spikes 2-4 sub-digitate at the ends of culms; spikelets slim, awned.

Habitat
Depressions with clayey sandy soil.

Distribution
Widespread in N. and C. Qatar forming dense but small stands and sporadic along roadsides; common in depressions where moisture is retained and common as a notorious weed of cultivated land.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.


Zamzam, Humeira; زمزم، حميره

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Subtribe Andropogoneae: Andropogoninae**

Scientific Name & Syns.
***Dichanthium foveolatum*** (Delile) Roberty, Boissiera 9:170 (1960).

Syns.
***Andropogon foveolatus*** Delile, Descr. Egypte, Hist. Nat. 16, t. 8,2 (1814); ***Eremopogon foveolatus*** (Delile) Stapf in Prain Fl. Trop. Afr., 9:183 (1917).

Habit
Perennial grass.

Description
Robust tussock-forming grass similar to ***D.annulatum*** but with a single spike at the end of the culm.

Habitat
Sandy-stony depressions.

Distribution
Similar to ***D.annulatum*** and usually mixed stands with both species occur.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass

Zamzam, Humeira; زمزم، حميره

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Subtribe Andropogoneae: Andropogoninae**

Scientific Name & Syn.
***Hyparrhenia hirta*** (L.) Stapf in Prain, Fl. Trop. Afr. 9:315 (1918).

Syn.
***Andropogon hirtus*** L., Sp. Pl., ed.1, 1046 (1753).

Habit
Perennial grass.

Description
Robust grass with reddish long lax panicles; spikelets with bent awns.

Habitat
Stony grounds.

Distribution
Reported by Obeid (1975), listed by Bolous (1978), and reported by El Amin (1983) as distributed in C. and N. Qatar and Dukhan.

Ind/Exo/Cult
Introduced.

Local Use
Range grass.

Safsouf, Humeira, Gharaz; صفصوف، حميرة، غرز

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Subtribe Andropogoneae: Andropogoninae**

Scientific Name & Syn.
***Sorghum bicolor*** (L.) Moench, Meth. 207 (1794).

Syn.
***Holcus bicolor*** L., Mant. Alt. 301 (1771).

Habit
Perennial grass.

Description
Tall grass with open panicles and large grains in globose spikelets.

Habitat
Sandy clayey soil.

Distribution
Roadside weed (escapes of cultivation and from household garden brooms).

Ind/Exo/Cult
Introduced.

Local Use
Fodder grass.

Zura bayad, Dere; ذره بياض، دري

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Subtribe Andropogoneae: Andropogoninae**

Scientific Name & Syns.
***Sorghum halepense*** (L.) Pers., Syn. Pl. 1:101 (1805).

Syns.
***Holcus halpensis*** L., Sp. Pl., ed.1, 1047 (1753);
***Andropogon halepensis*** (L.) Brot., Fl. Lusit.1:89 (1804).

Habit
Perennial grass.

Description
Tall reddish tinged grass with rhizomes and open panicles; spikelets lanceolate, soft, easily detachable.

Habitat
Sandy-clayey soil.

Distribution
Roadside weed (Johnson grass) near residential areas and fields.

Ind/Exo/Cult
Introduced.

Local Use
Fodder grass.

Helaiyat, Safrand; حلييات، صفرند

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Subtribe Andropogoneae: Rottboelliinae**

Scientific Name & Syn.
***Lasiurus scindicus*** Henrard in Blumea 4:514 (1941).

Syn.
***Lasiurus hirsutus*** (Vahl) Boiss., Fl. Orient. 3(4):146 (1859), comb. Illegit.

Habit
Perennial grass.

Description
Tussock-forming grass with silvery spikes and easily broken rachis.

Habitat
Roadsides, hill slopes, sandy ground and sand dunes.

Distribution
Widespread throughout Qatar and a common roadside weed in Doha and major cities where a moisture source is available.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass (not much favoured).

Daa; ضعــه

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Aristideae**

Scientific Name
***Aristida abnormis*** Chiov., Ann. Inst. Bot. Roma 8:48 (1903).

Habit
Annual grass.

Description
Erect grass with basal branching; culms ending in open panicles; spikelets 3-awned; column twisted and awns unequal with the central awn longer.

Habitat
Sandy stony soil.

Distribution
Occasional with the onset of the rains.

Ind/Exo/Cult
Indigenous.

Local Use
Range plant.

Houmra; حمـــراء

**Monocots/ Commelinids** **Poales** **Poaceae, Tribe: Aristideae**

***Aristida adscensionis*** L., Sp. Pl., ed.1, 82 (1753).

Scientific Name
Ephemeral grass.

Habit
Slender grass with 3-awned spikelets without a separating column; awns unequal, the central Longer.

Habitat
Sandy stony soil.

Distribution
Widespread with the onset of the rains.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.

Houmra; حمـــراء

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Aristideae**

Scientific Name & Syns.
***Aristida mutabilis*** Trin. & Rupr., Sp. Gram. Stipac. 150 (1842).

Syns.
***Aristida cassanellii*** Terracc; ***Aristida meccana*** Trin. et Rupr.(1842); ***A. mutabilis*** var. ***aequilonga*** Trin. & Rupr., Gram. Stipac. 152 (1842).

Habit
Ephemeral grass.

Description
Slender grass with open panicles similar to ***Aristida adscensionis*** but differs in the presence of a column separating the awns from the grain; awns 3, unequal; callus a tuft of hairs.

Habitat
Sandy stony soil.

Distribution
Widespread with the onset of the rainy season and more common in N. Qatar.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.

Houmra; حمـــراء

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Aristideae**

Scientific Name
***Stipagrostis obtusa*** (Delile) Nees, Linnaea 7:293 (1832).

Syn.
***Aristida obtusa*** Delile, Descr. Egypte, Hist. Nat. 175, t.13, f.2 (1814).

Habit
Annual grass.

Description
Slender tufted grass with one node to inflorescence. Spikelets with slivery feathery awns ending in an obtuse tip.

Habitat
Sandy stony soil and shallow depressions.

Distribution
N. and S. Qatar; Salwa road.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.



Nassi; نصـــي

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Aristideae**

Scientific Name & Syn.
***Stipagrostis plumosa*** (L.) Munro ex T. Anderson, J. Linn. Soc. Bot. 5 Suppl. 1:40 (1860).

Syn.
***Aristida plumosa*** L., Sp. Pl., ed. 2, 1666 (1763).

Habit
Annual grass.

Description
Slender tufted grass with feathery awns ending in an acute tip.

Habitat
Sandy stony soil.

Distribution
Northern Qatar by roadsides and in depressions and along Abu Samra route, Umm Slal and Mesaieed.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.


Nassi; نصـــي

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Arundineae**

Scientific Name
***Arundo donax*** L., Sp. Pl., ed.1, 81 (1753).

Habit
Perennial reed.

Description
Tall reed with rigid rhizomes and large leaves. Spikes with numerous hairy spikelets on lax panicles.

Habitat
Moist and wet areas.

Distribution
Rare. Reported by Batanouny (1981) as one record at Al Wabrah.

Ind/Exo/Cult
Introduced.

Gab, Galam; غاب، قلم

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Arundineae**

Scientific Name & Syns.
***Phragmites australis*** (Cav.) Trin. ex Steud., Nomencl. Bot. ed. 2:324 (1840).

Syns.
***Arundo australis*** Cav. (1799); ***Phragmites communis*** var. stenophylla Boiss. Fl. Orient. 5:563 (1884).

Habit
Perennial reed.

Description
Reed up to 2m high with thick rhizomes and stout leafy culms terminating in very large open and lax yellow panicles.

Habitat
Wetland.

Distribution
Common in depressions with brackish water, sewage disposal sites and areas of high water table in Doha and elsewhere.

Ind/Exo/Cult
Introduced becoming naturalized.

Local Use
Fodder grass.

## Vernacular Names

Gasab, Ghab; قصب، غاب

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Arundineae**

Scientific Name & Syn.
***Schismus arabicus*** Nees, Fl. Afr. Austral. 111.1:422 (1841).

Syn.
***Festuca calycina*** sensu Forssk. non Loefl.

Habit
Annual grass.

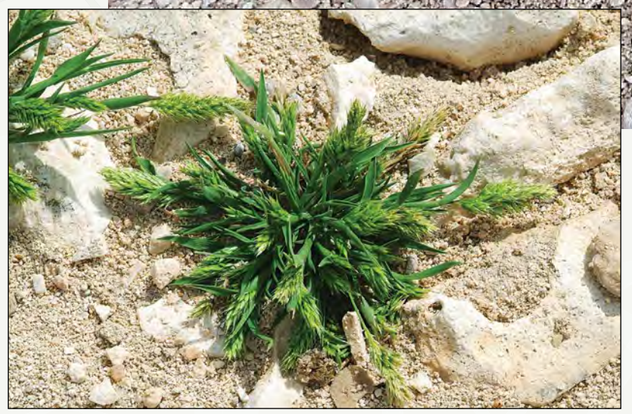
Description
Decumbent slender pale green grass with shallow fibrous root system and dense radiating vegetative growth; culms very slender ending in small spicate panicles.

Habitat
Sandy stony ground.

Distribution
Widespread weed of gardens; roadsides and wasteland.

Ind/Exo/Cult
Indigenous.

Local Use
Range plant.



Henaita; حنيطـه

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Arundineae**

Scientific Name & Syn.
***Schismus barbatus*** (L.) Thell., Bull. Herb. Boissier, ser. 2, 7:391 (1907).

Syn.
***Festuca calycina*** Loefl., Iter Hispan. 166 (1758).

Habit
Annual grass.

Description
Erect slender pale green grass with scanty root system; culms very thin ending in elongated spicate inflorescences. This species resembles ***Schismus arabicus*** but is much more slender and rather more upright.

Habitat
Sandy stony ground.

Distribution
Widespread weed of gardens; roadsides and wasteland.

Ind/Exo/Cult
Indigenous.

Local Use
Range plant.

Henaita; حنيطـــه

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Aveneae**

Scientific Name & Syn.
***Avena sterilis*** L., Sp. Pl., ed. 2, 118 (1762) subsp. ***ludoviciana*** (Durieu) Gillet & Magne, Nouv. Fl. Franc., ed. 3, 352 (1875).

Syn.
***Avena ludoviciana*** Durieu, Actes Soc. Linn. Bordeaux 20:41 (1855).

Habit
Annual grass.

Description
Attractive grass with nodding spikes; spikelets on long slender pedicels and with long dark and bent awns and open glumes.

Habitat
Sandy stony soil.

Distribution
Widespread.

Ind/Exo/Cult
Indigenous.

Local Use
Range plant.

Shofan barri; شوفان بري

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Aveneae**

Scientific Name
***Phalaris minor*** Retz., Observ. Bot. 3:8 (1788).

Habit
Annual grass.

Description
Soft grass up to 15 cm high with weak growth and a single shoot terminating in ovoid spikes; spikes less than 2 cm long with few spikelets.

Habitat
Sandy clayey soil.

Distribution
Rare. Collected from Al Magda.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.

Shaeer al far; شعير الفار

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Avenea**

Scientific Name & Syn.
***Phalaris paradoxa*** L., Sp. Pl., ed. 2, 2:1665 (1763).

Syn.
***Phalaris paradoxa*** L. var. ***praemorsa*** (Lam.) Coss. & Durieu, Expl. Sci. Algerie 2:25 (1854).

Habit
Annual grass.

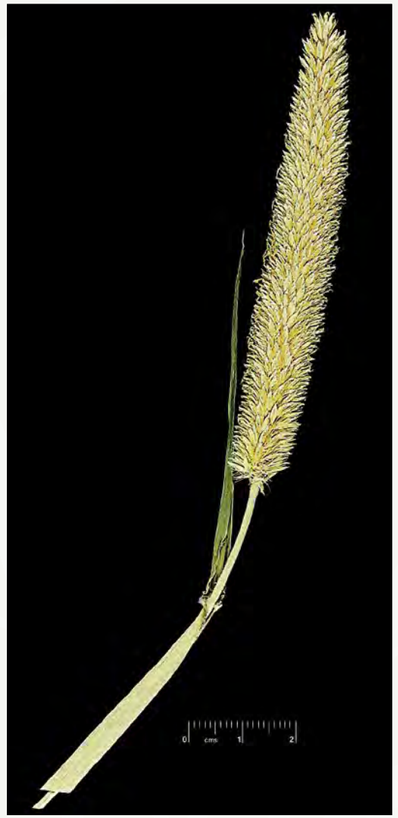
Description
Variable grass according to growth conditions; spikes cylindrical, variable in size; spikelets broad, linear-lanceolate.

Habitat
Moist ground and cultivated fields.

Distribution
Common weed of lawns, gardens, roadsides and fields.

Ind/Exo/Cult
Introduced.

Local Use
Fodder grass.



Shaeer al far; شعير الفار

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Aveneae**

Scientific Name
***Phleum arenarium*** L., Sp. Pl., ed. 1, 60 (1753).

Habit
Annual grass.

Description
Very slender grass of 15-20 cm length with a single culm 4-5-noded terminating in spike-like soft racemes of 4-6 cm long.

Habitat
Garden soil.

Distribution
A weed native to S. Europe recently recorded in Doha gardens, most likely introduced with imported lawn seeds.

Ind/Exo/Cult
Introduced.

Local Use
Lawn grass.


Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Aveneae**

Scientific Name & Syns.
***Polypogon monspeliensis*** (L.) Desf., Fl. Atlant. 1:67 (1798).

Syns.
***Aeluropus monospliensis*** L., Sp. Pl., ed. 1, 61 (1753); ***Phalaris cristata*** Frossk., Fl. Aegypt.-Arab. 17 (1775).

Habit
Annual grass.

Description
Leafy erect-decumbent grass with terminal compact panicles of congested pale green-yellow awned spikelets breaking from above downwards exposing a naked rachis.

Habitat
Gardens and fields.

Distribution
Weed of cultivated fields and gardens; more common during the rains.

Ind/Exo/Cult
Introduced.

Local Use
Fodder grass.

Waghal; وغـــل

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Aveneae**

Scientific Name & Syns.
***Rostraria pumila*** (Desf.) Tzvelev, Novosti Sist. Vyssh. Rast. 7:48 (1971).

Syns.
***Koeleria pumila*** (Desf.) Domin; var. ***glabrescens*** Tackh. (1941); ***Lophochloa pumila*** (Desf.) Bor, Grass. Burm. Ceyl. Ind. Pak: 445 (1960).

Habit
Annual grass.

Description
Slender grass with paniculate lax green inflorescences. Spikelets minute.

Habitat
Moist garden soil.

Distribution
Weed of cultivation.

Ind/Exo/Cult
Introduced.

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Brachypodieae**

Scientific Name & Syns.
***Brachypodium distachyum*** (L.) P. Beauv., Ess. Agrostogr. 101:155 (1812).

Syns.
***Bromus distachyus*** L., Cent. Pl. 2:8 (1756); ***Trachynia distachya*** (L.) Link, Hort. Bot. Berol. 1:43 (1827).

Habit
Annual grass.

Description
Rigid grass with stiff raceme-like spikes, with 6-8 compact long-awned spikelets.

Habitat
Sandy clayey and sandy stony soil.

Distribution
Rodats with deep soil and a weed of cultivation.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Bromeae**

***Bromus danthoniae*** Trin. in C. A. Mey., Verz. Pfl. Cauc. Meer 24 (1831).

Habit
Annual grass.

Description
Grass with open, few, raceme-like spikes. Spikelets awned and awns slightly deflexed.

Habitat
Semi desert with rock fragments.

Distribution
Rare. Reported by Batanouny (1981) as one record at Al Sudd in Doha.

Ind/Exo/Cult
Most likely an introduced weed.

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Bromeae**

Scientific Name & Syns.
***Bromus madritensis*** L., Cent. Pl. 1:5 (1755).

Syns.
***Bromus villousus*** Forssk., Fl. Aegypt.-Arab. 23 (1775); ***Bromus haussknechtii*** Boiss., Fl. Orient. 5:648 (1884).

Habit
Annual grass.

Description
Bushy grass with numerous basal culms ending in broom-like spikes. Spikelets awned.

Habitat
Semi desert with rock fragments.

Distribution
Rare. Reported by Batanouny (1981) as a record at Umm Slal Mohamed along the road to Doha.

Ind/Exo/Cult
Introduced.

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Bromeae**

Scientific Name & Syns.
***Bromus scoparius*** L., Cent. Pl. 1:6 (1755).

Syns.
***Bromus scoparius*** L. var. ***psilostachys*** Halacsy., Consp. Fl. Graec. 3:399 (1901); var. ***strenantha*** Stapf, Bull. Misc. Inform., Kew 1907:309 (1907).

Habit
Annual grass.

Description
Grass with compact short spikes and awned spikelets; awns curved upwards.

Habitat
Cultivated ground.

Distribution
Occasional along the Umm Slal to Al Shamal route.

Ind/Exo/Cult
Most likely an introduced weed from neighbouring countries.

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Centropodieae**

Scientific Name & Syn.
***Centropodia forskaolii*** (Vahl) Cope, Kew Bull. 37:658 (1983).

Syn.
***Asthenatherum forskaolii*** (Vahl) Nevski, Trudy Sredne-Aziatsk. Gosud. Univ. ser. 8b, Bot. 17:8 (1934).

Habit
Short-lived perennial grass.

Description
Small hairy grass with sparse but long pilose hairs; branches few, basal; leaves few with very short straight laminas; culms few-nodded carrying terminal raceme-like spikes set alternating on the rachis. Spike of 5-7 spikelets.

Habitat
Sandy-stony wadis.

Distribution
Rare; occurring in sandy wadi beds in the vicinity of Sudanatheil, S. Qatar.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.

Gasaba; قصبأ

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Cynodonteae**

Scientific Name
***Chloris gayana*** Kunth, Revis. Gramin. 1:293, t.58 (1830).

Habit
Perennial grass.

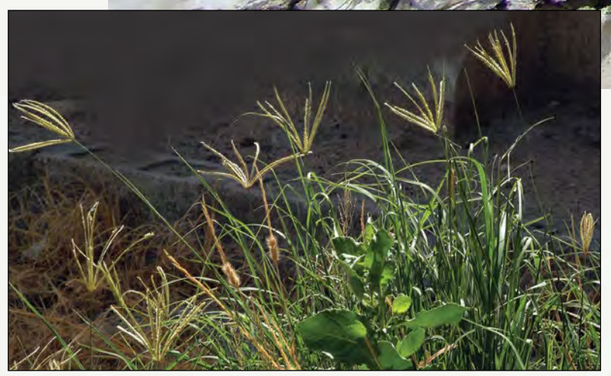
Description
Robust grass with dense basal growth giving upright culms ending in 12-20 digitate spikes; spikelets arranged along 2 rows, softly awned.

Habitat
Moist areas.

Distribution
Widespread in fields, lawns and roadsides where a water source is available.

Ind/Exo/Cult
Introduced; probably spread during transport of imported Rhodes hay and as an escape of cultivation.

Local Use
Fodder grass.



# Rhodes; رودس

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Cynodonteae**

Scientific Name & Syns.
***Chloris virgata*** Sw., Fl. Ind. Occid. 1:203 (1797).

Syns.
***Chloris barbata*** Sw., Fl. Ind. Occid. 1:200 (1797); ***Chloris pubescens*** Lagasea, 1808; C. ***meccana*** Hochst. & Steud. ex Schltdt., Linnaea 18:158 (1844).

Habit
Annual grass.

Description
Variable grass pending on growth conditions with dense vegetative growth and tall culms terminating in digitate 5-7 spikes of variable sizes; spikelets arranged along 2 rows, awned.

Habitat
Garden soil.

Distribution
Widespread on moist ground and also grown as a lawn grass.

Ind/Exo/Cult
Indigenous.

Local Use
Lawn grass mauned as fodder.


Khazamzam; خزمزم

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Cynodonteae**

Scientific Name & Syns.
***Cynodon dactylon*** (L.) Pers., Syn. Pl. 1:85 (1805).

Syns.
***Panicum dactylon*** L., Sp. Pl., ed. 1, 58 (1753);
***Cynodon dactylon*** (L.) Pers. var. ***villosus*** Regel. in Bull. Soc., Nat. Mosc. 41:305 (1868).

Habit
Perennial grass.

Description
Slender grass with runners and adventitious roots at nodes giving tufts of leafy shoots ending in terminal spikes; spikes 3-5, digitate, slender.

Habitat
Moist ground.

Distribution
Widespread all over Qatar in rodat depressions, rain pools, by roadsides, in fields, lawns and gardens.

Ind/Exo/Cult
Indigenous.

Local Use
Grown as a lawn grass; mowed as fodder.

Najeel, Teel; نجيل، تيل

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Eragrostideae**

Scientific Name & Syns.
***Aeluropus lagopoides*** (L.) Trin. ex Thwaites, Enum. Pl. Zeyl.:374 (1864).

Syns.
***Dactylis lagopoides*** L., Mant. 1:33 (1767); ***Aeluropus villosus*** Trin. ex C.A. Mey., Verz. Pfl. Casp. Meer: 18(1831); ***A. littoralis*** (Gouan) Parl. var. ***repens*** (Desf.) Coss. & Durieu, Expl. Sci. Algerie. 2: 155 (1855); ***A. repens*** (Desf.) Parl., Fl. Ital. 1: 462.

Habit
Perennial grass.

Description
Grass with creeping stems, mat-forming and giving erect short shoots not exceeding 10 cm high; leaves soft; spikes terminal, slender, bluish-tinged.

Habitat
Saline sandy soil.

Distribution
Widespread and invading irrigated areas; common in agricultural fields, rain pools and shallow depressions with saline sandy soil.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.

Ikrish; عكـــرش

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Eragrostideae**

Scientific Name & Syn.
***Aeluropus littoralis*** (Gouan) Parl., Fl. Ital. 1:461 (1848).

Syn.
***Poa littoralis*** Gouan, Fl. Monsp. 470 (1765).

Habit
Perennial grass.

Description
Grass with creeping stem giving tough erect rigid shoots not exceeding 10 cm high and forming compact mats; spikes short, dense, white.

Habitat
Sabkhas and highly saline sandy soil.

Distribution
Widespread and more common than ***Aeluropus lagopoides*** forming pure stands of grassland on highly saline soils.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.

Ikrish; عكـــرش

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Eragrostideae**

Scientific Name & Syn.
***Dactyloctenium aegyptium*** (L.) Willd., Enum. Pl. Hort. Berol. 1029 (1809).

Syn.
***Cynosurus aegyptius*** L., Sp. Pl., ed. 1, 72 (1753).

Habit
Annuals or biennial grass.

Description
Variable decumbent grass with radiating and branching shoots terminating in 3-4 digitate spikes; spikelets compact on flat rachis and pointing downwards; grains reddish-brown, corrugated.

Habitat
Garden soil and fields.

Distribution
Widespread as a garden and field weed.

Ind/Exo/Cult
Indigenous.

Local Use
Fodder grass.



Naeem al saleeb, Rijl al hurbaiya; نعيم الصليب، رجل الحربيه

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Eragrostideae**

Scientific Name
***Dactyloctenium aristatum*** Link, Hort. Berol. 1:59 (1827).

Habit
Annual grass.

Description
Small prostrate-decumbent grass rooting at the lower nodes; culm terminating in 3-4 digitate spikes; spikes and spikelets similar to ***Dactyloctenium aegyptium*** but with more pronounced, longer and deflexed awns.

Habitat
Shallow sandy depressions.

Distribution
Occasional along Al Khor-Al Shamal area in shallow natural or man-made depressions.

Ind/Exo/Cult
Indigenous.

Local Use
Range plant.

Najm; نجـــم

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Eragrostideae**

Scientific Name & Syn.
***Desmostachya bipinnata*** (L.) Stapf in Dyer Fl. Cap. 7:632 (1900).

Syn.
***Briza bipinnata*** L., Syst. Nat., ed. 10, 2:875 (1759).

Habit
Perennial grass.

Description
Tussock-forming grass with basal growth arising from thick rhizomes. Culms long, ending in long and narrow spikes.

Habitat
Moist grounds.

Distribution
Rare in vicinity of wetlands and in fields near built basins for artesian well.

Ind/Exo/Cult
Introduced.

Local Use
Fodder grass.


Halfa (not a local name); حلفا (إسم غير محلي)

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Eragrostideae**

Scientific Name & Syns.
***Eragrostis cilianensis*** (All.) Vignolo ex Janch., Mitt. Naturwiss. Vereins Univ. Wein 5 (9) :110 (1907).

Syns.
***Briza eragrostis*** L., Sp. Pl., ed.1, 70 (1793); ***Poa cilianensis*** All., Fl. Pedem. 2:246, t. 91, 2 (1785).

Habit
Annual grass.

Description
Slender grass with numerous basal culms ending in panicles; spikelets breaking from top downwards at maturity.

Habitat
Fields, gardens and roadsides.

Distribution
Collected from Al Wabara and Doha gardens; weed at edges of cultivated fields and by roadsides after the rains.

Ind/Exo/Cult
Indigenous.


Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Eragrostideae**

Scientific Name & Syns.
***Eragrostis ciliaris*** (L.) R. Br. in Tuckey, Narr. Exp. Congo. App. 478 (1818).

Syns.
Poa ciliaris L., Syst. Nat. ed. 10, 2:875 (1759);
***Eragrostis ciliaris*** var. ***brachystachya*** Boiss., Fl. Orient. 5:582 (1884).

Habit
Annual to short-lived perennial grass.

Description
Slender grass; culms with few nodes ending in soft long spicate inflorescences. Spikes cup-shaped with long soft bristles.

Habitat
Compact sandy clayey soil.

Distribution
Rare in rodat and in vicinity of cultivated fields; collected from Al Magda.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Eragrostideae**

Scientific Name & Syn.
***Eragrostis pilosa*** (L.) P. Beauv., Ess. Agrostogr. 162, 175 (1812).

Syn.
***Poa pilosa*** L., Sp. Pl., ed. 1, 68 (1753).

Habit
Annual grass.

Description
Slender grass with erect short culm ending in branched lax inflorescences. Spikes and spikelets minute.

Habitat
Sandy clayey soil.

Distribution
Collected from Al Magda; a weed of fields and gardens.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Eragrostideae**

Scientific Name & Syn.
***Halopyrum mucronatum*** (L.) Stapf in Hook., Ic. Pl. 25 t. 2448 (1896).

Syn.
***Eragrostis mucronatum*** (L.) Deflers, Bull. Soc. Bot. France 34:69 (1887), non Roem. & Schult.(1817).

Habit
Perennial grass.

Description
Tall rigid grass with culms terminating in narrow, long raceme-like spikes; spikes short and broad, ovate in outline with 5-10 spikelets alternately arranged.

Habitat
Coastal dunes.

Distribution
Coastal dunes on north-eastern Qatar, Fewairet and Abu Samra.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Eragrostideae**

Scientific Name & Syn.
***Leptochloa fusca*** (L.) Kunth, Rev. Coram. 1:91 (1829).

Syn.
***Diplanchne fusca*** (L.) P. Beauv. ex Roem., Syst. Veg. 2:615 (1817).

Habit
Annual or short-lived perennial.

Description
Grass with culms ending in elongated and spreading raceme-like inflorescences. Spikes long and very narrow with numerous minute spikelets.

Habitat
Wet-moist ground.

Distribution
Rare. Reported as a weed of moist areas in Doha gardens.

Ind/Exo/Cult
Introduced.

Local Use
Fodder grass.

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Eragrostideae**

Scientific Name & Syn.
***Ochthochloa compressa*** (Forssk.) Hilu in Kew Bull. 36: 560 (1981).

Syn.
***Panicum compressum*** Forssk., Fl. Aegypt-Arab : 18 (1775); ***Eleusine compressa*** (Forssk.) Asch. & Schweinf ex Chr., Dansk. Bot. Ark. 4(3):12 (1922).

Habit
Perennial grass.

Description
Creeping stoloniferous decumbent grass rooting at the nodes and giving tufted growth and culms with digitate spikes; spikelets compressed, flat, on a short rachis.

Habitat
Stony depressions overlain with wind-blown sand.

Distribution
Widespread throughout Qatar covering large areas with its distantly spreading shoots.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.


Najm, Suneim, Ghatab, Tundhab; نجم، صنيم، غتب، تنذب

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Eragrostideae**

Scientific Name & Syn.
***Sporobolus ioclados*** (Nees ex Trin.) Nees, Fl. Afr. Austral.111.1:161 (1841).

Syn.
***Sporobolus arabicus*** Boiss., Pl. Orient. 2 (13): 47 (1854).

Habit
Perennial grass.

Description
Tussock-forming grass forming mounds usually barren at the centre; spikes on lax open panicles.

Habitat
Saline sandy soils.

Distribution
Widespread on coastal saline sometimes forming pure stands; occasional by roadsides in depressions with clayey soil and in vicinity of farms.

Ind/Exo/Cult
Indigenous.

Local Use
Range plant.

# Sukham; صخـــام

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Eragrostideae**

Scientific Name & Syn.
***Sporobolus spicatus*** (Vahl) Kunth, Rev. Gram. 1:67 (1829).

Syn.
***Agrostis spicatus*** Vahl, Symb. Bot. 1:9 (1790).

Habit
Perennial grass.

Description
Short tufted rigid pale green grass forming dense ground growth; culms ending in very narrow cylindrical spikes.

Habitat
Moist ground.

Distribution
Common grass of roadsides and cultivated areas particularly after the rains.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.

Sukham; صخـــام

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Paniceae**

Scientific Name & Syn.
***Cenchrus ciliaris*** L., Mant. Pl. Alt. :302 (1771).

Syn.
***Pennisetum cenchroides*** Rich. in Pers., Syn. Pl. 1:72 (1805), nom. superfl.

Habit
Annual grass.

Description
Small grass with upright culms terminating in spicate inflorescences; spikes cup-shaped and arranged on a zigzag rachis, densely ciliate with cilia pointing upwards. Bracts originating from the base of the cup.

Habitat
Sandy soil.

Distribution
Common as weed of tree plantations and agricultural fields.

Ind/Exo/Cult
Possibly introduced with early expansion in agriculture.

Local Use
Fodder grass.

Darab, Sabat; دراب، سباط، صباط

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Paniceae**

Scientific Name
***Cenchrus echinatus*** L., Sp. Pl., ed. 1, 1050 (1753).

Habit
Annual grass.

Description
Grass with erect culms ending in short raceme-like spikes. Spikelets 6-10 covered with rigid clinging bristles.

Habitat
Sandy clayey soil and cultivated land.

Distribution
Weed of lawns, gardens and fields and is common in tree plantations.

Ind/Exo/Cult
Introduced.

Local Use
Fodder grass.

Darab, Sabat; دراب، صباط

Clade
**Monocots/ Commelinid**

Order
**Poales**

Family
**Poaceae, Tribe: Paniceae**

Scientific Name
***Cenchrus pennisetiformis*** Hochst. & Steudel. in Steud., Syn. Pl. Glumac. 1:109 (1854).

Habit
Annual grass.

Description
Grass with erect culms terminating in short spicate inflorescences. Spikes cup-shaped with free bracts and inner fused bracts; cilia soft and pointing upwards.

Habitat
Moist ground.

Distribution
Vicinity of irrigated areas.

Ind/Exo/Cult
Indigenous.

Local Use
Fodder grass.


Darab, Sabat; دراب، سباط، صباط

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Paniceae**

Scientific Name & Syn.
***Cenchrus setiger*** Vahl, Enum. Pl. 2:395 (1806).

Syn.
***Cenchrus montanus*** Nees ex Steud., Syn. Pl. Glumac. 1:111 (1854).

Habit
Annual to short-lived perennial.

Description
Grass producing numerous erect culms terminating in twisted spicate inflorescences. Spikes cup-shaped with fused bracts; base of cup with bristles; spikelets spiny.

Habitat
Gardens and fields.

Distribution
Weed of gardens, plantations and fields.

Ind/Exo/Cult
Introduced.

Local Use
Collected as fodder.


Darab, Sabat; دراب، سباط، صباط

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Paniceae**

Scientific Name & Syns.
***Digitaria sanguinalis*** (L.) Scop., Fl. Carniol., ed. 2, 1:52 (1772).

Syns.
***Panicum sanguinale*** L., Sp. Pl., ed.1, 57 (1753); ***Digitaria sanguinalis*** (L.) Scop. var. ***aegyptiaca*** (Retz.) Maire & Weiller, Fl. Afr. Nord, 1:299(1952).

Habit
Annual or biennial grass.

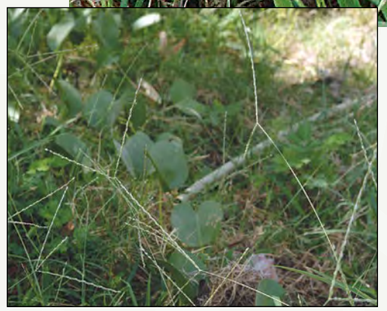
Description
Slender grass with lush green growth; spikes long, slender, alternate and widely spaced, of 10-12 spikelets along a thin rachis.

Habitat
Moist ground.

Distribution
Widespread weed of lawns, gardens and fields forming dense growth near water leakage points.

Ind/Exo/Cult
Introduced.

Local Use
Fodder grass.



# Zepheera; زفيـــره

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Paniceae**

Scientific Name & Syn.
***Echinochloa colona*** (L.) Link., Hort. Berol. 2:209 (1833).

Syn.
***Panicum colonum*** L., Syst. Nat., ed. 10, 2:870 (1759).

Habit
Annual grass.

Description
Decumbent grass rooting at nodes and giving erect culms with few nodes and terminating in raceme-like spikes.

Habitat
Moist ground of lawns, gardens and fields.

Distribution
Common weed.

Ind/Exo/Cult
Introduced.

Local Use
Fodder plant.

Dhunaiba, Abu roukba; ذنيبه، أبو ركبه

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Paniceae**

Scientific Name & Syns.
***Echinochloa crusgalli*** (L.) P. Beauv., Ess. Agrostogr. 53, 161 (1812).

Syns.
***Oplismenus crus-pavonis*** H. B. K. (1816); ***Echinochloa crusgalli*** var. ***mitis*** (Pursh) Peterm.; var. breviseta (Doell) Podu.; var. ***longiseta*** (Doell) Podu.

Habit
Perennial grass.

Description
Grass with erect culms ending in raceme-like spikes. Spikelets ovate, green.

Habitat
Moist ground.

Distribution
Agricultural land.

Ind/Exo/Cult
Introduced.

Local Use
Fodder grass.

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Paniceae**

Scientific Name
***Panicum coloratum*** L., Mant. Pl. 1:30 (1767).

Habit
Perennial grass.

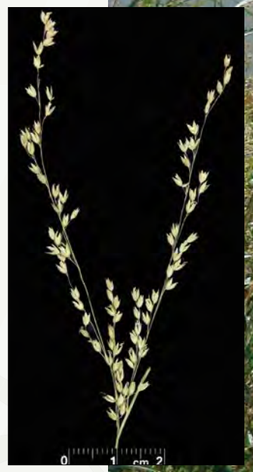
Description
Robust grass with large linear-lanceolate leaves and tall culms terminating in much branched lax panicles.

Habitat
Moist wasteland and edges of cultivation.

Distribution
A recent introduction established from escapes of fodder plantations spreading and growing profusely by water leakage points and by water tanks outside homes, in fields and villages.

Ind/Exo/Cult
Introduced.

Local Use
Fodder grass.



Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Paniceae**

Scientific Name
***Panicum turgidum*** Forssk., Fl. Aegypt.–Arab. 18 (1775).

Habit
Perennial grass.

Description
Tussock-forming grass up to a metre across with numerous irregular knobby branches. Inflorescences with few awned spikelets; anthers bright orange.

Habitat
Sandy soil.

Distribution
Widespread and very common in Dukhan vicinity and on sandy mounds in N.E. and S. Qatar.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.

Ithmam, Thumam; إثمام، ثمام

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Paniceae**

Scientific Name & Syns.
***Pennisetum divisum*** (Forssk. ex J.F. Gmel.) Henrard., Blumea, 3:162 (1938).

Syns.
***Pennisetum dichotomum*** (Forssk.) Delile, Fl. Aegypt.-Arab. 20 (1775) non L. (1753); ***Pennisetum elatum*** Hochst. ex Steud. (1841).

Habit
Perennial grass.

Description
Tussock-forming grass with numerous basal culms; spikes cylindrical, pale yellow with soft awned spikelets.

Habitat
Sandy mounds and depressions.

Distribution
Widespread throughout Qatar and common along Doha roadsides and wasteland.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.

# Ithmam, Thumam, Thaymoum; إثمام، ثمام، ثيموم

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Paniceae**

Scientific Name & Syn.
***Setaria verticillata*** (L.) P. Beauv., Ess. Agrostogr. 51, 178 (1812).

Syn.
***Panicum verticillatum*** L., Sp. Pl., ed. 2, 82 (1762).

Habit
Annual grass.

Description
Grass with dense vegetative growth and cylindrical sticky spikes; spikes long and twisted clinging to all objects.

Habitat
Garden soil.

Distribution
Weed of fields, gardens, lawns and palm plantations.

Ind/Exo/Cult
Introduced.

Local Use
Fodder grass.

Lusaig, Shaeer al far, Dhail al qit; لصيق، شعير الفار، ذيل القط

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Paniceae**

Scientific Name & Syn.
***Setaria viridis*** (L.) P. Beauv., Ess. Agrostogr. 51, 171 (1812).

Syn.
***Panicum viride*** L., Syst. Nat., ed. 10, 2:870 (1759).

Habit
Annual grass.

Description
Grass with sticky cylindrical spikes similar to ***S.verticillata*** but with shorter and comparatively of more straight spikes.

Habitat
Garden soil.

Distribution
Weed of fields, gardens, lawns and palm plantations.

Ind/Exo/Cult
Introduced.

Local Use
Fodder grass.


Lusaig, Shaeer al far, Dhail al qit; لصيق، شعير الفار، ذيل القط

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Paniceae**

Scientific Name & Syns.
***Urochloa trichopus*** (Hochst.) Stapf, Fl. Trop. Afr. 9, (1920).

Syns.
***Panicum trichopus*** Hochstetter (1844); ***Eriochloa trichopus*** (Hochst.) Bentham (1881).

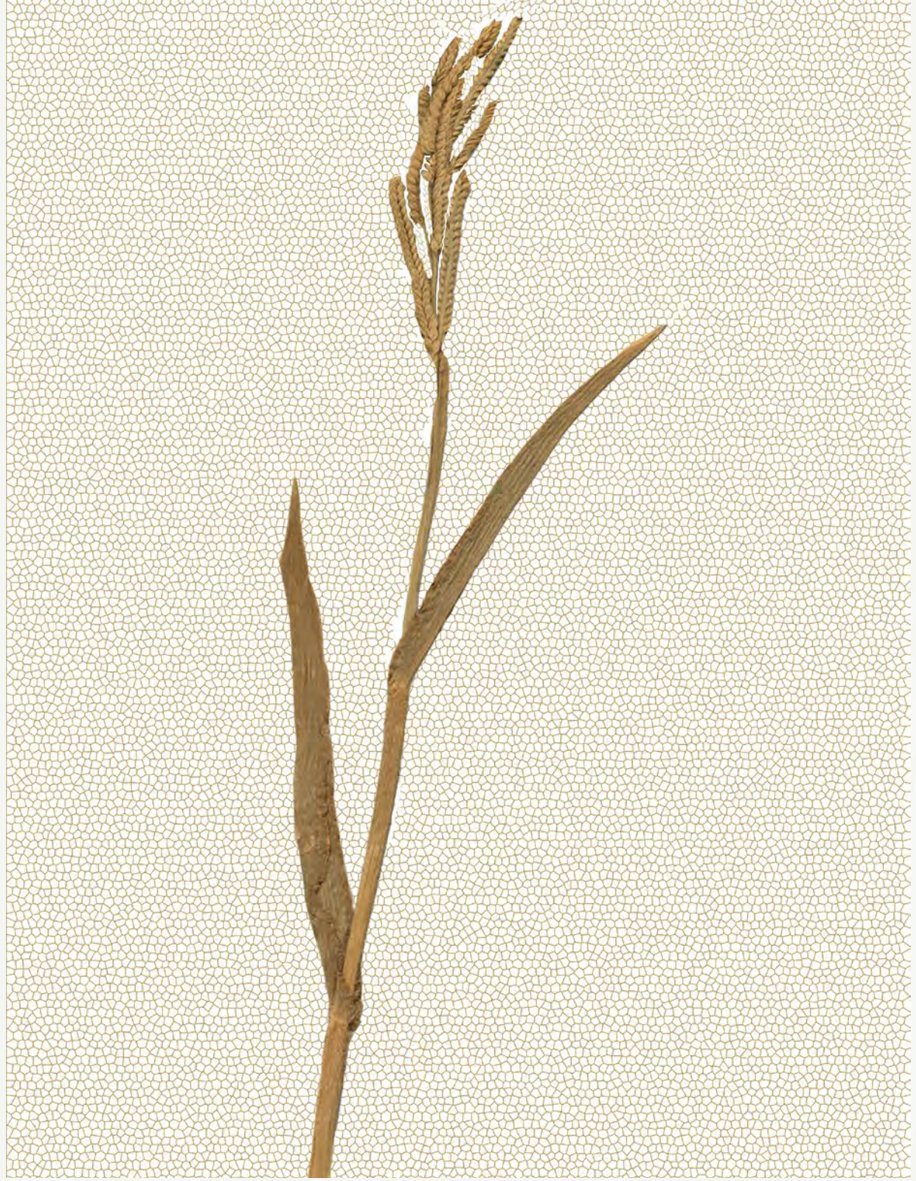
Habit
Annual grass.

Description
Robust grass similar to ***Brachiaria*** spp. Spikelets broad with long mucron.

Habitat
Moist ground.

Distribution
Agricultural weed.

Ind/Exo/Cult
Introduced.



Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Poeae**

Scientific Name & Syns.
***Cutandia memphitica*** (Sprengel) Benth., J. Linn. Soc. Bot. 19:118 (1881).

Syns
***Dactylis memphitica*** Spreng., Bot. Gart. Halle, Nachtr. 1:20 (1801); ***Festuca memphitica*** (Spreng) Boiss. ex Coss., Notes Pl. Crit. 183 (1851).

Habit
Annual grass.

Description
Grass with few-nodded culm terminating in dichotomously branched inflorescences. Spikes with few spikelets.

Habitat
Sandy soil and moist areas.

Distribution
Common on coastal sandy mounds S. of Al Ghareya and rare elsewhere and rare on cultivated land. Reported from S. Qatar.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.

## Theel, Shaeer; ثيل، شعير

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Poeae**

Scientific Name
***Lolium rigidum*** Gaudin., Agrost. Helv. 1:334 (1811).

Habit
Annual grass.

Description
Grass with extremely long raceme-like spikes; spikes up to 20 set alternately on a jointed rachis, each subtended by a leafy spathe; spikelets alternate, lanceolate.

Habitat
Field and garden soils.

Distribution
A seasonal weed of lawns, gardens and fields.

Ind/Exo/Cult
Introduced.

Local Use
Fodder grass.

Habaan, Shelam, Zeidan; هبان شيلم، زيدان

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Poeae**

Scientific Name
***Poa annua*** L., Sp. Pl., ed. 1:68 (1753).

Habit
Annual grass.

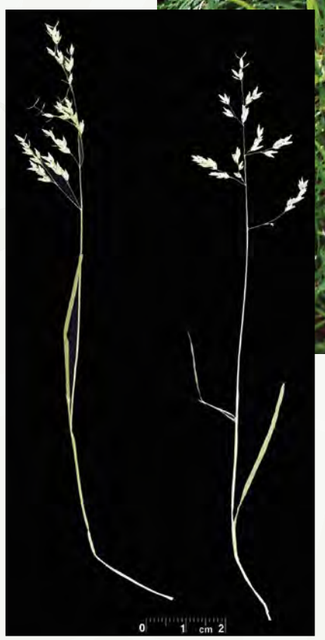
Description
Slender small grass. Inflorescences branched, lax, pale green-yellow with few spikelets.

Habitat
Garden soil.

Distribution
Planted as a lawn grass and is now a widespread garden weed in Doha and other towns.

Ind/Exo/Cult
Introduced and now naturalized.

Local Use
Lawn grass and mowed as fodder grass.




Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Poeae**

Scientific Name & Syn.
***Sphenopus divaricatus*** (Gouan) Rchb., Fl. Germ. Excurs. 45 (1830).

Syn.
***Poa divaricata*** Gouan, 111. Observ. Bot. 4, t. 2,1 (1773).

Habit
Annual grass.

Description
Delicate small slender purple grass with culms terminating in lax much branched panicles.

Habitat
Saline sandy soil.

Distribution
Reported by Obeid (1975), listed by Bolous (1978 ) and reported by El Amin (1983) in S. Qatar.

Ind/Exo/Cult
Introduced.

Local Use
Fodder grass.

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Stipeae**

Scientific Name & Syn.
***Stipa capensis*** Thumb., Prodr. Fl. Cap. 1:19 (1794).

Syn.
***Stipa tortilis*** Desf., Fl. Atlant. 1:99, t.31, f.1 (1798).

Habit
Annual grass t.

Description
Pale green slender grass turning golden yellow at maturity; spikes open lax panicles; spikelets with long barbed awns that get attached to passers-by.

Habitat
Sandy stony deserts and shallow depressions.

Distribution
Most common desert grass appearing with the onset of the rains and produces nasty awns.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass grazed only in dry the state.

Samma, Safa; صمعا، سفا

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Triticeae**

Scientific Name & Syn.
***Henrardia pubescens*** (Bertol.) C. E. Hubb. in Blumea, Suppl. 3:19 (1946).

Syn.
***Rottboellia pubescens*** Bertol, (1842).

Habit
Annual grass.

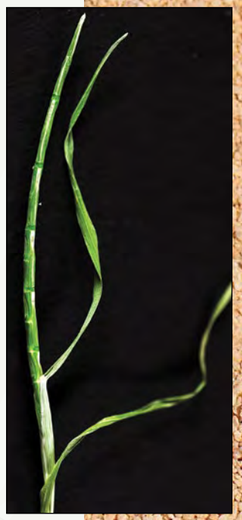
Description
Small rigid grass with culms producing axillary, very narrow jointed spikes with appressed spikelets.

Habitat
Sandy soil.

Distribution
Rare in the wild collected at S. Al Ghareya, occasional in Doha gardens.

Ind/Exo/Cult
Indigenous.

Local Use
Range grass.



Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Triticeae**

Scientific Name & Syn.
***Hordeum murinum*** L., Sp. Pl., ed. 1, 85 (1753).

Syn.
***Hordeum glaucum*** Steud., Syn. Pl. Glumac. 1:352 (1854); subsp. ***glaucum*** (Steudel) Tzvelev in Nov. Sist. Vyssh. Rast. 1917:67 (1917).

Habit
Annual grass.

Description
Small leafy grass with numerous culms ending in short spikes hardly exposed from the top leaf; spikelets arranged closely around the rachis with long soft awns.

Habitat
Sandy-clayey soil.

Distribution
Weed of gardens and fields.

Ind/Exo/Cult
Introduced.

Local Use
Fodder grass.



Shaeer; شعيـــر

Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Poaceae, Tribe: Triticeae**

Scientific Name & Syn.
***Hordeum vulgare*** L., Sp. Pl., ed. 1:84 (1753).

Syn.
***Hordeum distichon*** L., Sp. Pl., ed. 1, 85 (1753);
***Hordeum hexastichon*** L., Sp. Pl., ed. 1, 85 (1753).

Habit
Annual grass.

Description
Cultivated barley with numerous basal branches ending in long spikes with extremely long awns.

Habitat
Arable land and fields.

Distribution
Weed in gardens and fields and by roadsides appearing after the rains.

Ind/Exo/Cult
Escapes of cultivation and possibly spread via undigested barley grains in animal droppings and is now an established naturalized weed.

Local Use
Fodder grass.

Shaeer; شعيـــر

Clade
**Monocots**

Order
**Alismatales**

Family
**Potomogetonaceae**

Scientific Name
***Zannichellia palustris*** L., Sp. Pl., 2, 969 (1753).

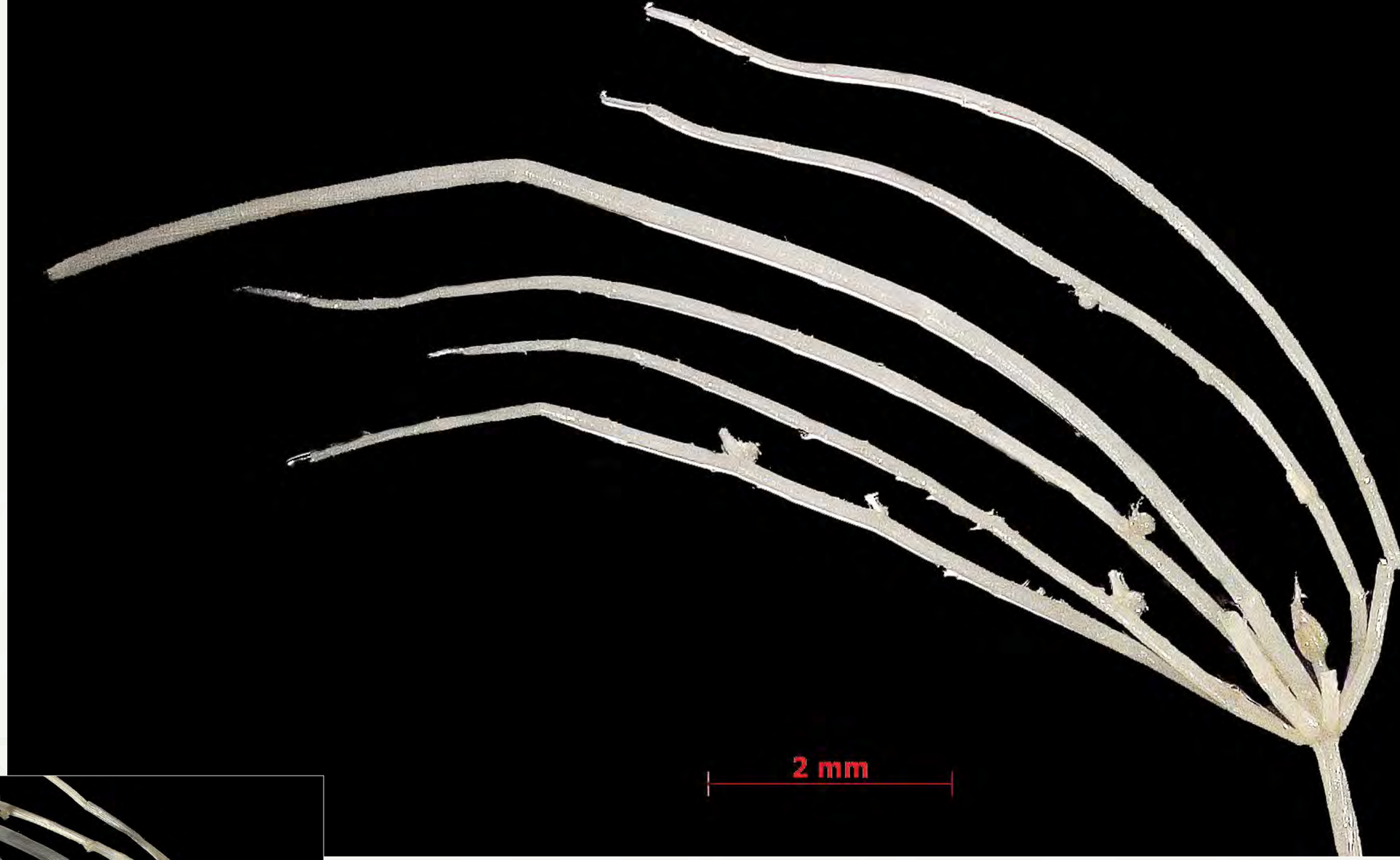
Habit
Aquatic annual or short-lived perennial.

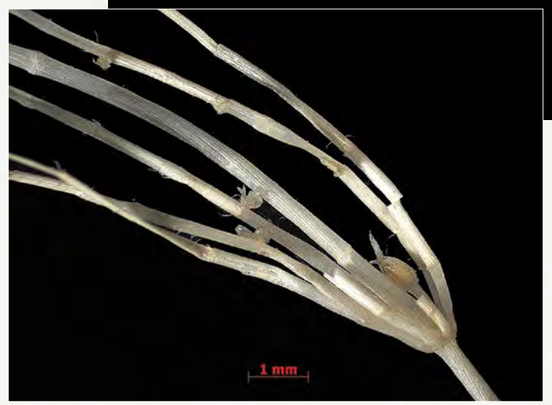
Description
Monoecious slender submerged plants appearing like grasses; branches slender, striated, whorled and forming soft mats in fresh water pools. Flowers unisexual, a pair (male and female), small and axillary.

Habitat
Fresh water ponds and sewage ponds.

Distribution
A cosmopolitan species most likely introduced by migrant wading birds feeding on organisms in water ponds. Large mats were observed in a waste water pool outside Doha.

Ind/Exo/Cult
Introduced.



Clade
**Monocots/ Commelinids**

Order
**Poales**

Family
**Typhaceae**

Scientific Name & Syn.
***Typha domingensis*** (Pers.) Poir. ex Steud., Nomencl. Bot. 860 (1824).

Syn.
***Typha australis*** Schum. & Thonn. in Schum., Beskr. Guin. Pl. 401 (1827).

Habit
Perennial reed.

Description
Giant reed with strong rhizomes giving compact erect shoots with large leaves. Flowers with modified parts (perianth); inflorescences dark-brown thick cylindrical spikes.

Habitat
Wetland.

Distribution
Swampy areas of sewage disposal sites and of water leakage points in farms.

Ind/Exo/Cult
Introduced.