



Keep Earth & Environment Pure for Future

e-tALK!

NEWSLETTER

Shah Latif  
University  
Botanical Garden  
& Herbarium  
ISSN 2306-9708



22 May, 2013 International Day for Biological Diversity (IBD)  
Water & Biodiversity



May, 22 is designated as INTERNATIONAL DAY FOR BIOLOGICAL DIVERSITY (IBD), with the aim to enhance the awareness about significance of Biological Diversity among commonalities. The theme of the year 2013, IBD is Water & Biodiversity. IBD under this theme celebrated all over the world to raise awareness on the critical issues facing water Management & Biodiversity. Biodiversity is fundamental to sustaining life, providing critical ecosystem services, such as food security, water purification, nutrient cycling, and climate regulation that are essential to support human well-being & economic growth. Water is essential for life. No living being on planet Earth can survive without it. It is a prerequisite for human health and well-being as well as for the preservation of the environment. Therefore it is our responsibility that **“We should preserve every scrap of biodiversity as priceless while we learn to use it and come to understand what it means to humanity”**.



22 MAY 2013  
INTERNATIONAL DAY  
FOR BIOLOGICAL DIVERSITY  
WATER & BIODIVERSITY

Volume 6, Issue 5, June 13



*Opuntia humifusa* (Raf.) Raf.

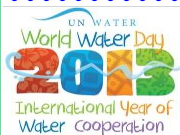
SLUBGH Team

**Dr Raza Bhatti**,  
Director (Ex-Pakistan Leave)  
**Miss Shireen Akhtar Soomro**,  
Lecturer-Cum-Keeper (In Charge CBC)  
**Mr. Shakeel Ahmed Khaskheli**,  
Artist  
**Mr. Arslan Ahmed Larik**,  
I.T  
**Mr. Rashid Hussain Amur**,  
Horticulture Officer

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Children's Program Recorded by Pakistan Television Network "Roshan Tara"



Centre for Biodiversity and Conservation (CBC), Comments are welcome  
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International Labour Day 1st May, 2013: Applause, Gratitude & Teamwork CBC Staff

“Since the kick-off the project in 2004 Botanical Garden-Herbarium-Centre for Biodiversity & Conservation up to current development and smooth ascending is your extraordinary hardworking and dedication. You deserve deep appreciation. Future endeavors would certainly surpass the past progress” Said Ms. Shireen Soomro-Incharge CBC-SALU.

**Azharuddin, Computer Operator**



Assist in to Keep Record, Letter Drafting & Purchasing of Material.



**G. Sarwar, Herbarium Technician**

Assist in to keep Record of Herbarium specimen & overall maintenance of all electrical items, machinery & equipment on working & off holiday as well.

**Ali Hassan, Office Attendant**



Assist in to maintain all Herbarium building.



Membership card distribution ceremony, Alumni Association SALU

Alumni Association, Shah Abdul Latif University has been established in January 2013 to update database of members of Alumni Graduates. On this forum students can share their ideas on academic, cultural & social issues.

First membership card distribution ceremony, to Alumni members was organized by Prof. Dr. Shafique Ahmed Arain, Director Alumni Association on 21st May 2013 at Senate Hall, Vice Chancellor Secretariat.

Ms. Shireen Akhtar Soomro, Incharge CBC, Mr. Shakeel Ahmed Khaskheli, An Artist & Mr. Arslan Ahmed Larik, I.T Assistant organizing committee Alumni Association attended ceremony.



Faculty Honor: Congratulations

Dr. Rahmatullah Qureshi has been elected as Vice President (Punjab) for the executive body/council of Pakistan Botanical Society. He is also declared as Productive scientists of Pakistan for the year 2012-13 and ranked first amongst his university fellows based on his research contribution.



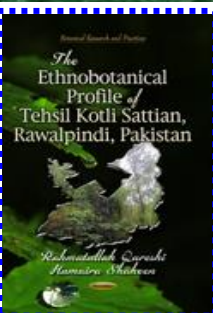
Faculty Delivered Talk

Dr. Rahmatullah Qureshi delivered an invited talk on "Floral biodiversity of major deserts of Pakistan and their conservation issues" @ International biodiversity day on 22nd May, 2013 celebrated by Pakistan Museum of Natural History, Pakistan Science Foundation. He discussed existing plant diversity of major deserts, their importance, threats & possible remedial measures.



Book Published By The Faculty

Dr. Rahmatullah Qureshi and his PhD scholar Ms. Humaira Shaheen jointly published a book titled, "The Ethnobotanical Profile of Kottli Sattian, Rawalpindi, Pakistan" published by Nova Science Publishers, New York, USA.



**DBG, Phoenix**



## International Workshop on “How Ethnobotany / Economic Botany Can Contribute to the Achievement of the Global Strategy for Plant Conservation” - Missouri Botanical Garden, St. Louis.



### A global Program on Conservation of Useful Plants and Traditional Knowledge: A Call to Action

An international workshop and consultation, “How Ethnobotany / Economic Botany Can Contribute to the Achievement of the Global Strategy for Plant Conservation,” was held at the Missouri Botanical Garden, 1–2 May 2013 in St. Louis, USA.

International experts from ten countries on plants used by humankind met to consider the ways in which a global crisis now underway—the loss of tens of thousands of plant species—can be addressed. These threatened plants include species vital to the lives of people throughout the world, including plants used for food and nutrition, medicine, cultural and spiritual purposes, and the maintenance of livelihoods; they are needed to redress poverty, provide food security, & ensure sustainable development in many nations. Plants and their associated bio cultural knowledge play an essential role in the ecosystem services that support all life on Earth.

This statement is not only an appeal to the international community to address the tragic loss of plant diversity but a call for the development of a concerted effort worldwide to address the loss of essential knowledge about plants and their uses, especially at the level of local communities.

The meeting specifically focused on the objectives of the Global Strategy for Plant Conservation (GSPC), an initiative adopted by the U.N. Convention on Biological Diversity in 2002, & subsequently updated in 2010, as well as the GSPC targets pertaining to the maintenance & preservation of useful & culturally significant plants. The participants concluded that there is also a great urgency to address the vital importance of traditional knowledge about plants, their utility, management, & conservation. This unique, often ancient, & detailed knowledge is typically held & maintained by local and indigenous communities.

The workshop contributors urged the development of a global program on the conservation of useful plants & associated knowledge, taking into account the need to:

Call on the international community and governments to

recognize the importance of wild and cultivated plant diversity, as well as the associated knowledge of their usefulness as a vital present-day and future resource. This should be accomplished through the successful implementation of the GSPC objectives and targets by 2020.

Highlight the need for a concerted international effort to compile a widely accessible global catalogue of useful plants of importance for human kind, while respecting intellectual property rights, local ownership of knowledge & appropriate benefit sharing.

Assist local peoples in the preservation of their traditional knowledge in a culturally appropriate manner.

Stress the need for cross cultural & multilevel partnerships in the effort to build on & share experiences on conservation of culturally significant plants, their sustainable use, & associated knowledge.

Develop an international research platform to address gaps in scientific knowledge of useful plants.

Facilitate capacity building and training opportunities in ethnobotany, particularly in countries and regions with significant gaps in such resources.

Support and encourage biocultural knowledge transmission and custodianship.

Develop the appropriate facilities, methodologies, & techniques to support culturally sensitive curation of biocultural collections (artifacts, herbarium vouchers, produces, living collections, etc.) and associated traditional knowledge.

Elaborate and disseminate educational materials & resources in appropriate languages that support and promote the study and use of traditional knowledge, and insure their inclusion in educational curricula.

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Develop a toolbox of methodologies, case studies, manuals, and good practices in order to support the conservation of useful plant and associated knowledge.

Highlight the need for measurable indicators that monitor progress in the conservation of useful plants & associated knowledge.

Follow the framework provided by the Nagoya Protocol on Access to Genetic Resources and the Fair & Equitable Sharing of Benefits Arising from their Utilization (ABS) to the Convention on Biological Diversity and FAO's International Treaty on Plant Genetic Resources for Food and Agriculture, in order to manage and achieve ethical standards for access, fair and equitable benefit sharing, traditional resource and farmers' rights, & the protection of intellectual property.

### Talk in International Workshop on "How Ethnobotany /Economic Botany Can Contribute to the Achievement of the Global Strategy for Plant Conservation"

**D**r. Raza Bhatti, Fulbright Scholar at Missouri Botanical Garden represented Pakistan & presented Profile of "The Centre for Biodiversity & Conservation Shah Abdul Latif University & Pakistan Botanical Gardens Network Secretariat (PBGNS)" in the International Workshop on "How Ethnobotany / Economic Botany Can Contribute to the Achievement of the Global Strategy for Plant Conservation" held at the Missouri Botanical Garden; 1-2 May 2013 in St. Louis, USA.



#### List of delegates

- ◆Mr. Vijay Barve (Foundation for Revitalisation of Local Health Traditions, Bangalore, Karnataka, India)
- ◆Dr. Raza Bhatti (Shah Abdul Latif University, Center for Biodiversity and Conservation, Khairpur (Mir's), Sindh, Pakistan)
- ◆Dr. Rainer Bussmann (Missouri Botanical Garden, St. Louis, MO, USA)
- ◆Dr. Robert Bye & Dr. Edelmira Linares (Universidad Nacional Autónoma de México, Mexico DF, Mexico)
- ◆Dr. Jin Chen (Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, Mengla, Yunnan, China)
- ◆Dr. Ehsan Dulloo (Bioversity International, Rome, Italy)
- ◆Dr. Peter Giovannini (Royal Botanic Gardens, Kew, Wakehurst Place, Ardingly, West Sussex, U.K.).
- ◆Dr. Robert Magill (Missouri Botanical Garden, St. Louis, MO, USA)
- ◆Dr. Didier Roguet (Conservatoire et Jardin botaniques, Chambesy, Geneva, Switzerland)
- ◆Dr. Jan Salick (Missouri Botanical Garden, St. Louis, MO, USA)
- ◆Dr. Tran Van On (Hanoi University of Pharmacy, Hanoi, Vietnam)
- ◆Dr. Ina Vandebroek (The New York Botanical Garden, Institute of Economic Botany, Bronx, NY, USA)
- ◆Mr. Glenn Wightman (Northern Territory Herbarium, Palmerston, NT, Australia)
- ◆Dr. Peter Wyse Jackson (Missouri Botanical Garden, St. Louis, MO, USA).



## Invitation to Visit Desert Botanical Garden, Phoenix, AZ

Phoenix AZ, May 10, 2013



**Dr. G. Raza Bhatti**  
Pro Vice Chancellor and Director  
Centre for Biodiversity & Conservation  
Shah Abdul Latif (SAL) University, Khairpur Pakistan.  
Fulbright Fellow, Missouri Botanical Garden,  
Shaw Blvd., St. Louis, MO 63110

**Subject:** Invitation to visit and give a presentation at Desert Botanical Garden, Phoenix, AZ

Dear Dr. Raza Bhatti,

I am pleased to invite you to visit the Desert Botanical Garden during the week of May 12<sup>th</sup> to 17<sup>th</sup>, 2013. During your visit we will show you our garden and you will spend time in our different departments to observe the operation of our place. Your lecture "**Thar Desert Dwellers (Sind-Pakistan): People and Plants.**" has been scheduled for Friday, May 17th, 10:30-12:00 pm at the Munson Family Classroom.

We are also informing you that we have made arrangements for you to attend the American Public Garden Association (APGA) 2013 Garden Evolution Conference with a complimentary registration and meals courtesy of the APGA and Desert Botanical Garden. The conference will be hosted by Desert Botanical Garden in May 20 through 24<sup>th</sup>, 2013.

Please do not hesitate to contact Raul Puente, Curator of Living Collections if you need any assistance.

We look forward to welcoming you to Desert Botanical Garden

Sincerely yours,

Kenneth Schultz

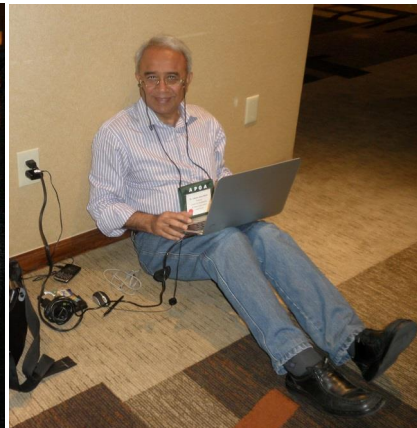
The Dr. William Huizing Executive Director

1201 N. Galvin Parkway, Phoenix, Arizona 85008 P 480 941.1225 F 480 481.8124 [dbg.org](http://dbg.org)

APGA Conference Glimpses  
The Garden Evolution Conference 2013



Group from St. Louis



## A Seminar "Recent Directions in Plant Exudate & Amber Research" Attended

**D**r. G. Raza Bhatti attended a seminar "Recent directions in plant exudate & amber research" given by Dr Jorge Santiago Blay, Pleobiologist, National Museum of Natural History, Washington, held on Wednesday, May 15, 2013 at Desert Botanical Garden, Phoenix- Arizona -USA.





## Desert Botanical Garden Phoenix- Arizona celebrated "Plant Conservation Day"

"The interconnected cycle of desert dwellers (human being, Livestock & vegetation) & the dependence on water for survival is rhythm of life" said Dr. Raza Bhatti (Fulbright Fellow @ Missouri Botanical Garden).

**R**esearch, Conservation & Collections Department of the Desert Botanical Garden organized a seminar/lecture/talk to commemorate "Plant Conservation Day" on Friday, 17 May, 2013 in Munson Family Classroom. Prof. Dr. G. Raza Bhatti (Fulbright



Fellow @ Missouri Botanical Garden) from the Centre for Biodiversity & Conservation, Shah Abdul Latif University, Khairpur, Sindh- Pakistan was the speaker of the event. Dr. Bhatti gave talk on "THAR DESERT DEWELLERS (Sindh -PAKISTAN) PEOPLE & PLANTS". This talk explored the working of the interconnected cycle (human being, Livestock & vegetation) and the dependence on water for survival keeping nature, culture & environment into account in the Thar Desert.

The Thar Desert is located in Sindh Province of Pakistan. The Indian desert Rajasthan is a continuity of the Thar Desert. The topography of an area is distinctly marked with sandy hills, steep slopes and vast low laying areas with stabilized and moving sandy hummocks.

Thar Desert falls under in the category of arid region with scanty rainfall and classified as subtropical desert. The Rain is the only source of water which is a limiting factor for human beings, livestock and natural vegetation. The livelihood/economy of people are largely dependent on their livestock i.e. sheep, goat and camels. The wellbeing or survival of livestock is greatly associated with vegetation.

Dr. Bhatti also discussed the opportunities of joint research projects on desert plants, data base for herbarium & botanical garden and human resource development between CBC-SALU and DBG-Phoenix.

The seminar was attended by staff of the various departments of Garden; includes research, horticulture, education, herbarium, Library and volunteers. The attendees appreciated the profound information on the Thar Desert plants and people interaction presented during the seminar.

Furthermore, Dr. Bhatti highlighted the role of Fulbright fellowship program in understanding scientific, social & cultural linkages being created among the individual scholars and institutions of both the countries.

In addition Dr. Bhatti acknowledged the courtesy of Desert Botanical Garden and American Public Garden Association (APGA) in offering complementary registration to attend "The Garden Evolution Conference" held on 20-24 May 2013 in Phoenix-Arizona.

## "Plant conservation in arid lands: international perspectives"



**Introduce Panelists:** Dr. Patrick Griffith, Mr. Tariq Abutaleb, Executive Director Royal Botanic Garden, Jordan, Dr. Raza Bhatti, Fulbright Scholar, Missouri BG, Director CBC-Shah Abdul Latif University, Pakistan, Dr. Ori Fragman-Sapir, Head Scientist, The Jerusalem Botanic Gardens, Israel, ASHOKA fellow, Zaher Redwan, Executive Director Green Hand, Lebanon.



**M**y take-away thoughts as APGA 2013 wraps up: summed up by the wonderful opening and closing sessions on international cooperation — plants know no borders and peace comes when we know & respect each other and must act like as civilized human beings. The closing panel -- with people from five different countries — exemplified what we can do together, and the true role of public gardens.



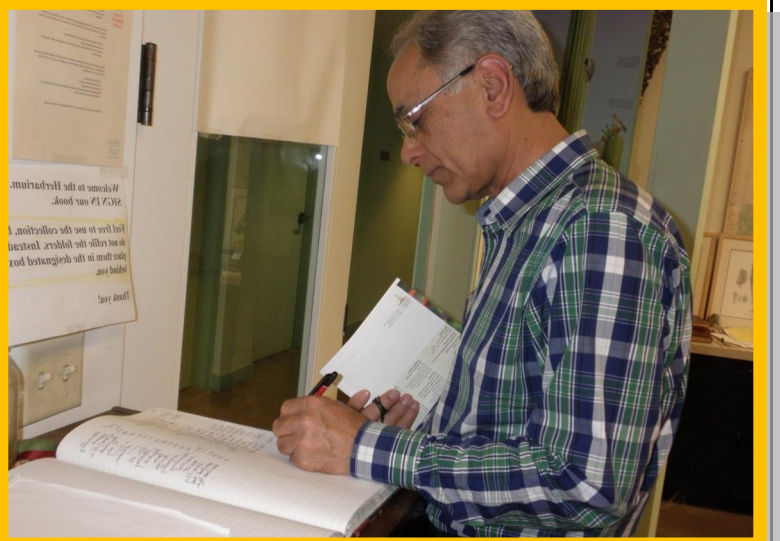
## Sunday, May 19, 2013: Visit to Saguaro National Park and Arizona Sonora Desert Museum Tucson- Arizona (Dr Raza Bhatti courtesy of Dr. Raul and Dario )



## PSF Chairman visit to Desert Botanical Garden (DBG)-Phoenix-Arizona

**D**r. Manzoor H. Soomro paid visit to the Desert Botanical Garden-Phoenix-Arizona on 16 May, 2013. Dr. Soomro has meeting with the Executive Director, DBG, Mr. Ken Schutz, Dr. Kimberlie A. Mccue, Program Director, Conservation of Threatened Species & Habitats, Dr. Raul Puente-Martinez, Curator of Living Collections, Research Botanist. Dr. Raza Bhatti Fulbright Scholar from Missouri Botanical Garden, St. Louis who was invited to deliver talk in DBG also participated in the meeting.

The joint research on desert - arid land ecology/biodiversity and conservation between the DBG & Pakistani universities, Centre for Biodiversity & Conservation, Shah Abdul Latif University, Cholistan Institute of Desert Studies, Islamia University Bahawalpur & Pakistan Museum of Natural History was discussed. Dr. Soomro was given tour to the Garden trials and other available facilities at DBG by Dr. Raul.





# Meeting with Director, Desert Botanical Garden, Phoenix, AZ, USA

- ⇒ Dr Kenneth Schutz., Executive Director, Desert Botanical Garden, Phoenix,AZ
- ⇒ Dr. Manzoor H Soomro, Chairman Pakistan Science Foundation,
- ⇒ Dr. G. Raza Bhatti, Fulbright Fellow, Missouri Botanical Garden, St. Louis
- ⇒ Dr. Raul Puente, Curator Living collection, Desert Botanical Garden, Phoenix.



## Education at Desert Botanical Garden



Met Tina Wilson, Director of Education and Nina Grout Education Department Children's Program



## Herbarium

Dr. Raul Puente, Dr. Andrew Salywon & Dr. Raza







Ms. Eliane McGinn, Director of Planning & Exhibits

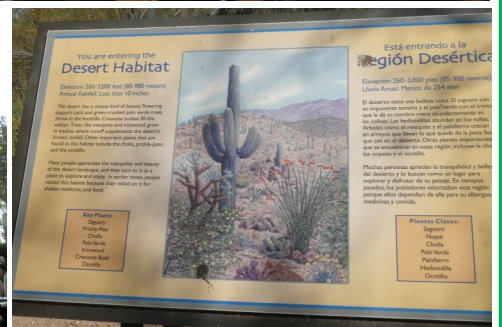


Desert Landscape School: Ms. Rebecca Senior

Dr. Raul Puente- Curator Living Collection Desert Botanical Garden-Phoenix



APGA Conference Glimpses The Garden Evolution Conference 2013





## Art, Nature and Exploration:

Investigating the destructive beauty and materiality of invasive aquatic plants

By Megan Singleton

The investigation of ecological relationships within society and the landscape is the basis of my current work and research. As an interdisciplinary artist, I create site-specific installations that resonate with the materiality & rhythms of the natural world. My work intertwines the sculptural manipulation of wire and handmade paper, cast bronze, found objects, and large format books arts. I am an observer, collector, fabricator, and instigator of thought and haptic experience. Throughout my creative process I employ techniques that crisscross the boundaries of contemporary craft, sculpture, installation & digital media.

My interest in the contemporary craft movement stems from my passion for the art of hand papermaking. I have refined my expertise of this art over the last eight years and utilize my knowledge of this historic craft to create work in a contemporary context that transforms invasive plants into paper sculptures & books. This process of collection and transformation allows for these plants to be honored as living organisms while simultaneously engaging & educating viewers about the importance of invasive species awareness.



Figure 2- Water Hyacinth Detail

Louisiana's bayous are captivating and majestically unique, abounding with biologically diverse ecosystems precariously enduring the challenging impacts of humans and invasive species of plants and animals. There are over four hundred bayous braided across the state. Over the course of one year I have spent nearly every weekend investigating this aquatic landscape by canoe, deciphering the differences between native and invasive flora and fauna.

At the beginning of this project I was attempting to fulfill my naturalist's desire to get a closer look into the fascinating network of bayous that I was surrounded by, and was followed by a year of material research & invasive plant collection in the swamps of Louisiana.

I began by identifying the characteristics of the two most common and destructive invasive aquatic plants in Louisiana. The Water Hyacinth, *Eichhornia crassipes* originates from South America and was brought to the United States during the 1884 Cotton Exposition held in New Orleans. It was a gift from Japanese delegates & distributed throughout the state as decorative flora for ponds. This perennial plant with thick glossy leaves was prized for its large and beautiful violet.



Figure 1- Collecting Water Hyacinth (photo: Jacob Hauck)

Research, both material & scholarly, is a critical component of my studio practice. Collecting, testing, and discovering the properties of these invasive plant fibers to be used in papermaking & sculpture are a catalyst for my inspiration. Researching the history of the landscape where the plants were collected and the history and systems of the plants themselves allows me to develop content and reveal the relationships I discover through drawings & sculpture. This distinct process of material selection also allows me to physically embed elements of regional specificity into my work.

My most recent body of work, *Eight Thousand Daughters Woven Into Bayou Braids*, explored the destructive beauty and materiality of invasive aquatic plants found in Southern Louisiana's Manchac Swamp and Atchafalaya Basin.



Figure 3- Hyacinth Infestation in the Atchafalaya Basin



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Figure 4- Alligator Weed

Flowers and its unique bulbous form. The plant proliferated rapidly into the waterways of Louisiana and in surrounding southern states.<sup>1</sup> Water hyacinth is one of the world’s most productive plants. A single plant can produce up to 5000 seeds and scientists predict one plant can produce up to 8000 daughter plants forming off rhizomes in the period one month. This production rate allows the plant to form dense green mats that infest waterways.<sup>2</sup>

The second plant I identified was Alligator Weed, *Alternanthera philoxeroides*. This invasive plant also originates from South America. It is believed that the species was transported to the U.S. through the ballast water of cargo ships. This floating perennial forms thick impenetrable mats along the shoreline making access to land difficult. It has also been known to creep up and begin growing in soil. Bright pink new growth or roots sprout from each node on the plants long, hollow tubular stalks. The submerged root mats provide habitats for micro and macro aquatic invertebrates, and as the plant decomposes it provides nutrients for even more aquatic life. Alligator weed has a fragrant white flower resembling that of a clover and each flower only produces one seed within the fruit.<sup>3</sup>

My approach to this body of work was multi-faceted. First, I wanted to create a situation that mimicked my observations of the relationship between native and invasive flora in the swamp. Upon entering the gallery I place the viewer in an installation of plant forms simulating the alligator weed and water hyacinth. The abstract sculptures are a hybrid of both plants. The petal form references the hyacinth whereas the stalk composition is reminiscent of the Alligator Weed. Metaphorically these sculptures represent the role of the invasive plants on the ecology of the swamp, as they surrounding & encroaching upon the viewer, which represents the native flora. It was my goal that viewers left the exhibition with a curiosity about the complex role of invasive species, a desire to explore the unique landscape that surrounded us, or questioning the hierarchies that exist within the fragile ecology found in Louisiana’s Bayous.

I am interested in how art can address the natural world and connect with the physical actions of a growing living environment to engage people. This in turn, can inspire communities and individuals to care and foster the growth and revitalization of our landscapes and their natural systems. Much of my work is directly inspired by my experiences in nature and the research that evolves from wanting to understand the history and systems of the locations I explore.

1. Hyde Jr., Samuel C., and Finley, Keith M. *One of the Prettiest Spots I Have Seen: “Politics, Industry and the Destruction of the Manchac Ecosystem, Hammond: Southeastern Louisiana University, 2006.*
2. State of Washington Department of Ecology. “Non Native Invasive Freshwater Plants”. Accessed April 10, 2012. <http://www.ecy.wa.gov/programs/wq/plants/weeds/aqua010.html>.
3. AgriLife Extension Texas A&M System. “Aqua Plant: A Pond Manager Diagnostics Tool”. Accessed April 15, 2012. <http://aquaplant.tamu.edu/plantidentification/alphabeticalindex/alligatorweed>



Figure 6 Louisiana Bayous: Invasive Plant Collection Routes (photo: Kelly Tate)

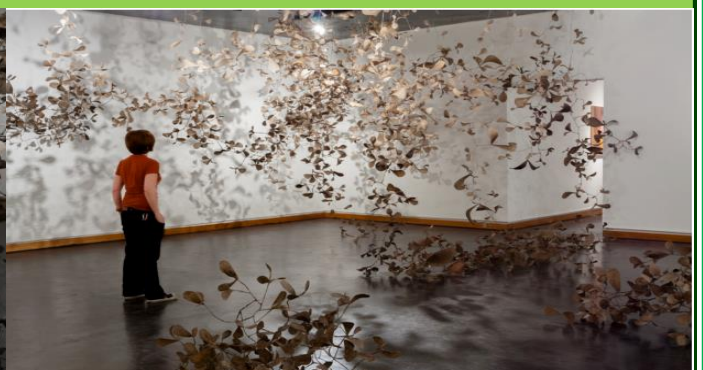


Figure 5- “Eight Thousand Daughters” installation view (photo: Kelly Tate)



Figure 8- “Louisiana Bayous: Invasive Plant Collection Routes” detail



Figure 7- “Hyacinth Study #1” detail (Cast Bronze and Plant Specimens)



## Large Scale Cultivation of Maize in Nara Desert Belt Under Locust Threat

By: Mohammad Zayauddin, Entomologist, Center for Biodiversity and Conservation, Shah Abdul Latif University Khairpur

**A**mong the desert fauna the desert locust [*Schistocerca gregaria*] is recognized as a threat to agriculture production in Africa and South West Asia [Pakistan, India, Iran and Afghanistan]. Normally the desert locust [Family -Acrididae -Orthoptera] is a solitary insect that occur in desert. During the solitary phase locust population are low and present no economic threat. However, after a period of drought when vegetation flushes occur following monsoon rains in major locust breeding areas which comprises Nara desert also rapid population build up and competition for food occasionally results a transformation from solitary behavior to gregarious behavior on a regional scale. Following this transformation, locusts often form dense band of flightless nymphs and swarm of winged adults that can devastate agricultural areas if this winged menace is not controlled in the desert. A single swarm of locust can be relatively small [spread over about hundreds of sq.km.] or huge [billion of locust with up to 80 million per sq.km.spread over areas of more than 1000 sq.km.].

A swarm of locust can fly 100 km in the general direction of winds. Band of nymphs can march about 1.5 km a day. Desert



spray of pesticide, but maize crop, which was sporadic in cultivation, had completely been whipped out by the swarm of locust.

For the last about 15 years Nara desert belt has not encountered any locust outbreak. This very long absence or recession period, as a matter of fact, has given an impression among the farming community of Nara that locust problem has gone rather it was a phenomenon of the past. Accordingly they are indulging in large scale cultivation of maize in Nara canal desert belt which is highly vulnerable to locust attack. Survey of the area and interview with the growers have revealed that main reason behind this change of crop pattern was because of the fact that for the last over two years, on the one hand climatic change has been found damaging cotton crop at the stage when it is ready for picking whereas its cultivation involve about Rs.20000.per acre. On the other hand Engro has set up a huge dairy farm in Taluka Nara & persuading cotton growers to grow maize fodder offering buy back guaranty.

Moreover following change in the long established weather pattern besides maize, cotton growers have opted to many other crops vulnerable to locust attack. These are ground nut, sesame, mung bean, water melon and one alien grass species which have been cultivated on thousands of acres.

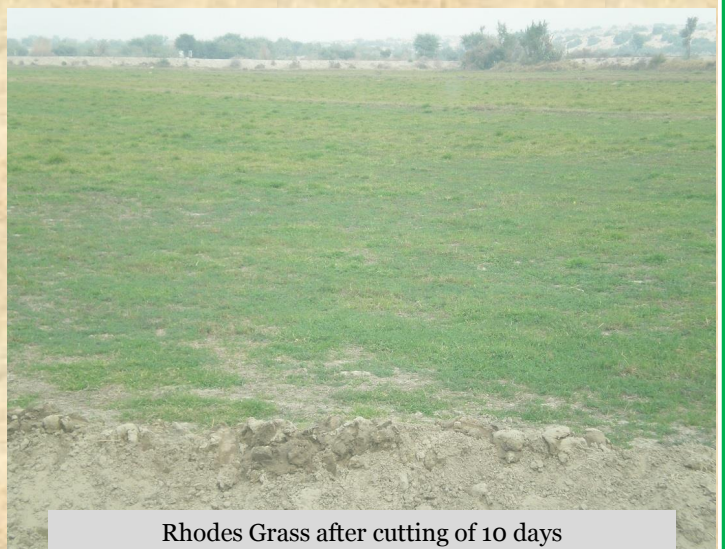
Since locust control in the desert is the sole responsibility of Plant Protection Department, working under the National Food Security and Research Ministry Islamabad, it is suggested that DPP must take notice of this new cropping pattern following climate change so that appropriate strategy could be devised to protect these high value crops from desert locust in case of its outbreak.



locust can consume the approximate equivalent of their body mass each day [2gm]. In green vegetation, leaves, flower, bark, stem, fruit and seed. Normally all crops and non crop plants are at risk but maize is the most susceptible crop for the locust.

According to the Plant Protection Department Government of Pakistan responsible for locust control in the country Pakistan has encountered many serious locust invasion from time to time viz; 1950-54, 1960-63, 1970-71, 1972-73, 1974-75, 1977-78, 1983, 1993-94 and lastly during 1998. Here it may not be out of place to mention that this very scribe being an entomologist in the Plant Protection Department had the opportunity to participate in all the anti locust campaign from 1978 to 1998. The last one was in Nara canal desert belt.

No doubt locust outbreak, whenever it took place, in the desert of the country swarms of locusts were contained in its breeding areas. However, its left over population while migrating from its summer breeding areas of Sindh to winter breeding areas of Baluchistan and Iran sometimes happened to settled in the cultivated areas causing localized damage to green vegetation, plants and trees. During 1998 outbreak in Nara desert a splinter of locust swarm which managed to escape its control by air by the spray aircraft of the plant protection department had settled during night in Taluka Tharimirwah and setharja area of District Khairpur. Next morning when this very writer visited the locust affected cultivated areas it was found the green trees on which swarm of locust had settled or taken rest during night had completely been denuded. In the ground cotton crop in its maturing stage had escape damage perhaps because of repeated



Rhodes Grass after cutting of 10 days



## Flamingos in Search of Peaceful & Rich Habitats

By: Nadeem Mirbahar, Member of IUCN Commission on Ecosystem Management (CEM),  
Associated with IUCN Pakistan & based at Country Office, Karachi

**T**he word “Flamingo” is derived from the Spanish word “Flamenco” which means fire, which refers to the bright colour of the bird’s feather.

Flamingos are wading birds, and powerful fliers, they fly in flocks and can fly up to 35 miles per hour & are instantly recognizable from their clear appearance & characteristics. They equally attract the hearts of bird lovers and ordinary passer by because of their beauty. Flamingos are monogamous birds i.e. they lay only a single egg each year. The chicks of flamingo are grey or white in colour and take up to three years to reach maturity. Colouring of their feathers comes from carotenoid pigments in their food which they filter out after skimming through waters for hours. They eat shrimps, plankton, algae and crustaceans.



**Long legs and a long, curved neck are characteristics of all Flamingo species**

Flamingo	Chick-1	Chick-2	Chick-3
Weight	0.5 kg	0.5 kg	0.5 kg
Beak size	9.5 cm	9 cm	8.5 cm
Neck size	19 cm	21 cm	18 cm
Body Size	23 cm	26 cm	21 cm
Tarsus Size	18 cm	21 cm	18 cm

**Flamingo Chicks discovered at Garam Kot, in the Sonmiani Bay on July 7<sup>th</sup>, 2005**

There are six recognised species of flamingos all over the world (Greater Flamingo-LC, Caribbean Flamingo-LC, Chilean Flamingo-NT, Lesser Flamingo-NT, Andean Flamingo-VU and Jame’s Flamingo-NT). Among the flamingo family the Greater Flamingo species are larger birds and Lesser are smaller in size. An adult flamingos’ leg size ranges between 30-35 inches which is its distinct feature along with its unique colour. Their life expectancy is nearly 30 years.

In Pakistan, flamingos are found in a range of wet habitats from freshwater to saltwater including mud flats, lakes, coastal lagoons, open marshes and relatively shallow salt lakes and rich feeding grounds. These birds arrive from the Central Asian States and Europe to escape the hard winter season through the Indus flyway zone (Over KaraKorum, Hindukush, Suleiman Ranges, along the Indus River) one of seven International bird flyways. Each year these beautiful birds arrive, in the months of September-November and start leaving the county in March-April with a few exceptions.

During migration periods they are visible near Shabbi, Ankara River, Jewani, Pasni, Hingol River Estuary, Phore River estuary, Sonminai Bay, Korangi Creek, Hajamro Creek, Kharo Chan, Shah Bundar areas and are also found in Rann of Kutch, Haleji, Nureri, Jubo, Keenjhar, Hamal, & Manchar wetlands.

These birds can easily be seen in wild habitats and feeding grounds in Pakistan. When they first migrate, they tend to roam around freely and can be observed from a distance of a few feet. I have experienced it myself in Seeranda Lake and Sonmaini beach (Lasbela) in 2005-6 while photographing & surveying the migratory birds, but with the rise in hunting they have become very sensitive and avoid human populated areas.



**A Flamingo flies with its head and neck stretched out in front and its legs trailing behind**

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Photo by: Madiha Aijaz, IUCN-Pakistan

**I**n Sonmiani Bay on July 7th, 2005, flamingo chicks were discovered by the local fishing community at Garam Kot area which was the first breeding evidence of flamingos in Lasbela district. In July, 2012, I observed many flocks of chicks (20-30) in Korangi Creek while travelling with IUCN colleagues.

Mr. Mohammad Tahir Qureshi, Senior Advisor IUCN Pakistan shared that he has been observing breeding of the flamingo's since last 7-8 years in these creek areas.

Over the years good conservation efforts in some areas of Pakistan have improved the conditions for species survival which is a great news for flamingo lovers around the globe (The breeding of flamingo species of in various locations of Pakistan shows that flamingo is looking for a new home/habitat). I myself met a hunter from Lasbela who voluntarily handed two bullets and promised that he will never hunt a flamingo again, which was definitely a result of positive advocacy to protect the species.



Flamingos communicate through a range of visual displays, including the "head flag"



One of three Chicks discovered at Garam Kot area, Sonmiani Bay, Balochistan, 2005 (Nadeem Mirbahar)

Among the flamingo species two are visiting Pakistan and, are present in IUCN Red List of species, Greater Flaming (*Phoenicopterus ruber*) - Least Concern, with characteristics, size ranges 125-145cm, longer and thinner neck and larger bill and Lesser Flamingo (*Phoenicopterus minor*), with Near Threatened status, with characteristics, size ranges between 80-90 cm with shorter neck and smaller bill. Breeding of both species were recorded in Badin (Richard Grimmett, Tom Roberts and Tim Inskipp, Birds of Pakistan, 2008).

Overall the flamingo population around the globe is at risk due to predators, habitat loss, poaching, hunting, capturing for collecting decorative feathers and egg collection etc. Timely efforts are needed to raise awareness among masses about their role in eco-systems and aesthetic value or else the world will lose another wonderful creature.



### ROSE-RINGED PARAKEET



The Rose-ringed Parakeet (*Psittacula krameri*), also known as the Ring-necked Parakeet, is a gregarious tropical Afro-Asian parakeet species that has an extremely large range. Rose-ringed parakeets are popular as pets.

This non-migrating species is one of few parrot species that have successfully adapted to living in 'disturbed habitats', and in that way withstood the onslaught of urbanization and deforestation. In the wild, this is a noisy species with an unmistakable squawking call.

Rose-ringed parakeets measure on average 40 cm (16 in) in length including the tail feathers. Their average single wing length is about 15–17.5 cm (5.9–6.9 in). The tail accounts for a large portion of their total length.

**Editorial Note:** E-talk is cyber based newsletter publication by the center for Biodiversity & Conservation (CBC), Shah Abdul Latif University (SALU), Khairpur. It appears first day of every month since May 2008, carrying news about the CBC's activities & articles contributes outside CBC staff as well. This publication has the ISSN 2396-9708 (International Standard Serial Number). The Center would appreciate popular articles outside of our staff related to environment subject in broader sense. The word limits should not exceeds 600 with two photographs/chart/ etc. Article will be accepted only through email: [info@cbc-salu.org](mailto:info@cbc-salu.org) & copy to [arслан.larik@salu.edu.pk](mailto:arслан.larik@salu.edu.pk)

## Temperature & Humidity for the Month of May 2010-11-12-13

