



Plant Wealth of Iraq, The History of Its Exploration and Features of Desert Region

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KEYWORDS: Exploration , Natural wealth , Life forms , Annual , Perennial plant , Desert region , Iraq.

Introduction

The plants of Iraq, the ancient Mesopotamian land of civilization, are interesting. In this dry and arid region they, especially the herbaceous ones, take a special condensed course of life compared with the plants inhabiting mild and moderate climatic regions. The severe cold followed by a very short pause of spring rapidly changes to an extremely hot, rather burning hot, summer. The new seedlings of herbaceous plants and the dormant or defoliated shrubs and trees of the winter suddenly flush with foliage and flowers with the advent of spring and nature smiles again with green cover for a few months from May to September. In these five or six months of summer, rather a short period, most plants especially the herbaceous ones must complete their life cycle. The colour of the flowers in this dry area is dazzlingly brilliant and inflorescence exhibits exuberance than those of the milder regions 'It is a remarkable contrast. Sudden appearance of flowers and their sudden disappearance - a preparation for bitter cold period, is also remarkable. Contrary to the common belief, about three thousand plant species have been recorded in Iraq. Once dominated probably by large trees, Iraq now possesses mostly herbaceous and shrubby plants in its extensive arid regions the semidesert or desert expanse.

History of explorations of Iraqi plants

The Arabs in the early times gave much attention to the study of plants of the Arabian Peninsula, North Africa and Spain from different angles especially for their uses in medicine. Mention needs to be made in this connection of Eben Sina or Avicenna (980-1037), Ghafiqy (1160), and Eben Al-Baithar (1248). The study of the plants of Iraq from the aspect of modern science. may be considered as started from the later part of eighteenth century and after. A. Michaux (1782), Oliver Bruguier (1795), Aucher-Eloy (1835), Col. Cheney (1836), Theodore Kotschy (1841), Noe (1851), and Haussknecht (1865-1867) worked on the plants of Arabia which have been incorporated in Boissier's *Flora Orientalis* (1876). Further J. Bornmüller (1892 - 1893), Oppenheimer (1893), F. Nabélek (1909), H. F. V. Handel-Mazzetti (1910), C. Pau and C. Vicioso (1910), E. Guest (1929), A. Eig 1929-1946, Z. Zohary (1933), and Col. Meinertzhagen (1934) amongst others made extensive collection of the plants of Iraq. But it is worth mentioning that their collections are not present in Iraq but remain scattered in different herbaria of the Continent and elsewhere. These collections have been housed mostly in the herbaria of Geneva, Paris, Berlin, Kew, Vienna, Leningrad,

Montpellier and at the Natural History Museum, Chicago. It is regretted that no specimens of their collection exist in our National Herbarium. E. Guest began to establish the nucleus of a herbarium of Iraqi plants in the year 1929. He collected about 5000 specimens which have been subsequently identified at the Royal Botanic Gardens, Kew. J.B. Gillett (1946-1949) and Guest (1954-1958) made further collections which have been added to the herbarium. The present author continued collection of specimens from 1946 to 1962 and the number of sheets housed in this herbarium may now come to about thirty thousand.

Plants of the desert region in Iraq

It is indeed difficult to limit true desert from the steppe as variation of rainfall at different years fades the line of demarcation of true desert from the steppe. A line starting from Badra on the east near the Persian border, through Oizil Ribat, Tikrit, Haditha and through the south of Rutte about 100 km away abating ca the Jordan Frontier demarcates the steppe region on the north from the desert towards the south. This imaginary line (zone) represents a transitional stage of vegetation and the real steppe gradually appears as one approaches the north towards the elevated land. Similarly on the other side towards the south the true desert type appears a little further away. In fact, this line passes through the chain of hills starting from Busht-i-Kuh on the east, then through Hamrin Mountain and through Al-Fatha near Baiji and finally meets at the southern plateau of Rutba. There are two main features of the desert, firstly there is great variation of temperature, in the summer it is very high and in winter too low. The average of highest (annual) temperature is about 45° c and the average lowest temperature is about 4° c. Secondly there is no rainfall for about six months in summer when the land remains absolutely dry. The annual humidity is less than 50% and remains less than 30% during the day time. The desert plants are adapted to these variations of meteorological factors. Many plants are adapted for water conservation and thus succulency of vegetative organs is often a conspicuous feature. Desert plants can be classified into two principal divisions:

1. **Annual plants:** which make 66% of the total cover and 60% for the species. These plants begin to grow immediately after rainfall and complete their life cycle by the end of the rainy period and soon after the temperature begins to rise. Typical species are : *Helianthemum salicifolium*, *Stipa tortilis*, *Plantago ovata*, *Alyssum desertorum*, *Matthiola oxyceras*, *Papayer rhoeas*, *Adonis dentata*, *Arnebia decumbens*, *Schimpera arabica*, *Savignya parviflora*, *Astragalus tribuloides*, *Silene oliveriana* etc.

2. Perennial and biennial plants: these are either herbaceous or woody plants; they possess special vegetative organs to resist drought and heat.

a) Herbaceous plants which grow in depressions and have fleshy organs to conserve water: Suaeda vermiculata Schanginia baccata, Bicnerda cycloptera, Arthroenemu glaucum. Besides these some other speices with fleshy leaves have been mentioned under the class woody plants. Tubers and bulbs: Scorzonera rawi, Iris sisyrinchium, Gage reticulata, Allium stramineum, Drodium hirtum. Plants with rhizones or strong root systems: Cleome glanca, Andrachne telephicides, Peganum harmala, Artenusia herba-alba. Succutent Stems : Cistanche tubulosa.

b) Woody plants with deep seated root systems: Haloxylon salicornicum, Anvillea garcini, Rhanterium epapposum; plants with spines : Zilla spinosa, Fagonia bruguieri, Astragales spinosus, Capparis spinosa, Ziziphus nummularia; plants provided with a deposit of wax or woolly surfaces to reduce transpiring area : Scrophularia hypericifolia, Francoeuria crisa, Zygophyllum coccinenm, Atriplex tatarica. These are the basic factors which let the plants resist severe drought and high temperature.

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