MEDICINAL AND POISONOUS PLANTS OF IRAQ

ALI AL-RAWI

Botany and Range Management Division, Ministry of Agriculture, Government of Iraq, Baghdad

Inroduction

Drugs and medicines were of great interest to man from the remotest age. When the dawn of civilization did not peep unto mankind, man tried to cure disease by herbs growing round about him and probably by trial and error he was able to establish certain home remedies.

In this way the use of plants perhaps has been felt all over the world inhabited by man. These developed in different countries in different ways but the fundamental object remained the same. Even today the same practice of the use of crude drugs is in vogue amongst the millions of tribal races and rural folks all the world over. In Asia two great centres of indigenous systems developed on almost parallel lines. The Mohammedan system developed in the Arabian countries called the *Unani System* and the Hindu System developed in India known as *Ayurvedic System.* History tells us that there were intimate contacts between the practitioners of these two systems for many centuries and great intimacy took place between them and as a result uses of many drugs have been prectised by both these schools for the cure of ailments,

The people of Iraq as a whole more or less value the indigenous drugs and some of these drugs have been estimated very valuable and their uses have been carried through posterity as household remedies and sometimes kept as a house secret. The nomadic Baduins, for instance, believe in the efficacy of many of these drugs and preserve many of them as family secret. So far very little attempt has been made to study the medicinal and poisonous plants of Iraq. Bernhard, Melkonian, Guest and Rawi have, however, in recent years made certain contributions in these lines. A great field for exploration yet remains open. Government of Iraq have now undertaken a master plan to cultivate and investigate the medicinal plants of Iraq. It is hoped very soon the scheme will be in operation. About 1000 donums of land have been set apart for this purpose.

In the present discourse I have attempted to record the names of important poisonous plants of Iraq. During the collection of plants for our National Herbarium, which contains over 30,000 specimens of indigenous plants embracing about 800 genera and about 2100 species, we have been gathering informations regarding the properties of plants used all over and the present paper indeed is an outcome of such enquiries. We are also preparing a list of flora of our country in collaboration with the Royal Botanical Gardens, Kew.

Attempts have been made for a long time to group the plants of this country under different heads like (1) food plants (2) fodder plants (3) ornamental plants (4) oil-yielding plants. (5) medicinal plants and (6) plants possessing antiseptic and poisonous properties or plants possessing any other economic value. It is interesting to note that local names have been given only to these plants alone and no name is correctly traceable to plants which do not possess any economic importance. The plants recorded in this discourse are poisonous to man or animals. Grazing animals, 17 millions of which have been so far in record in Iraq, are often subjected to sickness or death caused by swallowing of some parts of these plants and the rural folk knows much of them and also of their remedial measures.

Attempts are being made to gather as much information as possible of these plants and also of the host of medicinal plants indigenous to Iraq. We are also trying to cultivate some of them and investigate the active principles by chemical analysis of these potential drugs.

Bibliography

A. Bernhard Smith *Poisonous Plants of all Countries* (1923.)

Ada Georgia, *Manual of Weeds* (1935).

Albert H. Brundage, *Manual of Toxicology* (1929).

Bailey, *Manual of Cultivated Plants* (1944).

Britton, *Manual of Flora of North State and Canada*, (1901).

Cordex, *The British Pharmaceutical Codex* (1934).

Douw G. Steyn, *The Toxicology of Plants—Sotuh Africa* (1934).

G. Hegi, *Flora von Mittel Europa.*

Grass Yearbook of Agriculture, (1948).

H. I. Featberly, *Some Plants Poisonous to Livestock in Oklahoma* (1945).

Hooker, *The Student's Flora* (1884).

Imp. Agr. Bureaux, *The Use & Misuse of Shrubs Trees as Fodder* (1947).

No.	Latin name	Parts of plant	Active principle	Effects	Animal or man	Distribution
1	*Adonis aestivalis L.*) *Ranunculaceae*)	Young leaves	Adonidin	—	Horses	N.M.S.
2	*Ammi majus L.*) (*Umbelliferae*)	Seeds	Di-methoxmethyl-furochromone.	Blindness.	Horses	N.M.
3	*Anagallis arvensis L.* (*Primulaceae*)	Root herb.	Cyclamin volatile oil and 2-glycosidic.	It is used to intoxicate fish and to expel leeches from nostrils of livestock.	Dogs, rabbits & sheep.	N.M.S.
4	*Anagyris foetida L.* (*Leguminosae*)	Seeds and leaves.	Anagyrin & cytisin.	Purgative and vomiting.	Man.	N.
5	*Anemone coronaria L.* (*Ranunculaceae*)	Young leaves and flower.	Animoxic acid, animonin	It causes irritation of the digestive tract.	Sheep.	N.
6	*Anthemis cotula DC.* (*Compositae*)	Leaves and flowers	Glucoside and prussic acid	Cause blistering of the skin, used as tonic and stimulant	—	N.
7	*Apocynum venetum L.* (*Apocynaceae*).	Leaves and barks.	Aricitine.	Cause dermatitis.	Cattle and horses	N.
8	*Aristolochia maurorum L.* (*Aristolochiaceae*).	Leaves.	Aristolochin.	Harmful.	Cattle.	N.
9	*Brassica arvensis L.* (*Cruciferae*).	Seeds.	Allyl-isothiocyanate, sinaebin, sinapine.	Chronic enteritis, hemorrhagic, diarrhoea, colic, abortion, nephritis with haematuria, apathy, paralysis the of heart.	—	N.
10	*Citrullus colocynthis Schrad* (*Cucurbitaceae*)	Fruit.	Colocynthin.	Purgative.	Man.	N.M.S.
11	*Convolvulus scammonia L.* (*Convolvulaceae*)	Herb	Jolapin, scammonia, convolvulin.	Purgative, vomit, death.	Animals.	N.
12	*Crepis foetida L.* (*Compositae*).	Roots & herbs.	Salicylaldehyde.	Fever.	Sheep.	N.
13	*Daphne angustifolia C. Koch* (*Thymelaeaceae*)	Bark, leaves, fruit, seeds.	Daphnin.	Causes inflammation of mouth, stomach, kidneys, nervousness, vomiting, diarrhoea, colic.	—	N.
14	*Datura stramonium L.* (*Solanaceae*).	Leaves, seeds, roots.	Hyoscyamine, hyoscine.	Headache, nausea, loss of sight, death.	Man, cattle, horses sheep.	S.
15	*Datura stramonium L.* (*Solanaceae*).	Leaves, roots, seeds, flowers.	Hyoscyamin, atropin, skopolammin.	Headache, nausea, vertigo, extreme thirst, dry burning sensation in the skin, dilated pupils, loss of sight and voluntary motion, mania, convulsion and death.	Cattle, horses, sheep, children.	N.M.
16	*Delphinium ajacis Linn.*	Leaves	Ajacine, ajoconine ajacinine, ajacinoidin.	Loss of appetite, general uneasiness and staggering gait; in acute cases animals fall and lie with feet extended more or less rigidily, causes nausea	Cattle, horses, sheep.	N.M.
17	*Equisetum arvense L.* (*Equisetaceae*).	Top of branches		Unthriftiness and loss of weight, loss of control of the muscles and sway and staggers loss of power to stand, becomes very nervous and straggling violently	Cattle, horses sheep	

No.	Latin name	Parts of plant	Active principle	Effect	Animals or man	Distribution
18	*Euphorbia helioscop* (*Euphorbioceae*)	Milky juice	Selenium, euphorbon.	Irritant emetic and purgative, swells eyes, mouth and throat; causes abdominal pains and fainting spells, cattle become weak, collapse; have excessive scour and finally die.	Man & animal	N
19	*Euphorbia pepulus L.* (*Euphorbiaceae*). ..	Milky juice. ..	Selenium, euphorbon	Irritant, emetic and purgative etc. like above.	Man & animals.	M.S.
20	*Euphorbia tincturia* (*L.*) Raf. (*Euphorbiaceae*).	,,	,,	,,	,,	N.M.
21	*Fritillaria imperialis L.* (*Liliaceae*).	Fresh bulbs. ..	Imperialis. ..	——	Animals. ..	N.
22	*Hyoscyamus reticulatus L.* (*Salanacreae*). ..	Seeds. ..	Hyoscine, hyoscyamine, atropine	Irritation upon the digestive system and narcotic upon the nervous	Man, animals.	N.
23	*Hypericum crispum L.* (*Hypericaeae*). ..	Leaves ..	Hypericin. ..	It produces dermatitis, cattle affected, develops high temperature, rapid pulse and respiration, tendency to diarrhoea and mild dermatitis, inflammation and ulcers on the unpigmented parts of skin.	Horses, cattle & sheep	N.
24	*Hypericum perforatum* (*Hypericaseae*) ..,	Leaves ..	Hypericin. ..	——	,,	N.M.
25	*Lepidium draba L.* (*Cruciferae*)	Seeds and young leaves ..	Hydrocyanic acid. ..	—	Fishes. ..	N.M.S.
26	*Linum usitatissimum L.* (*Linaceae*) ..	Non-ripe fruits and seeds.	Phaseolunantin which decomposed to hydrocyanic acid. ..	Uneasy, stagger, fall, go into convulsions, breathe with increasing difficulty with eyes rolling and tongues hanging out, and die.	Cattle & pigs.	M.
27	*Melia azedrch L.* (*Meliaceae*). ..	Bark & fruits. ..	Substance of narcotic nature.	Paralysis irregular respiration, suffocation, large doses produce death.	Man, sheep, goat.	M.
28	*Narcissus tazetta L.* (*Amaryllidaceae*).	Herb. ..	Pseudo-narcissin. ..	——	—	N.
29	*Nerium oleander L.* (*Apocynaceae*). ..	Leaves. ..	Merioside, oleandroside	Nausea, vomiting, colic dizziness, decreases pulse rate; irregular heart action, marked mydriasis, bloody diarrhoea, unconsciousness; paralysis of respiratory system and causes death.	Man, sheep, goats, cattle & horses.	N.M.
30	*Papaver rhoeas L.* (*Papaveraceae*). ..	Flower, parts containing milky juice. ..	Morphine ..	Narcotic upon the nervous system	Cattle, horses, sheep and pigs.	N.M.
31	*Papaver somniferum L.* (*Papaveraceae*) ..	Parts containing milky juice ..	Thebaine, morphine, codeine, papaverine. ..	Narcotic action upon the nervous system. ..	Man, cattle and others animals.	cult.
32	*Paganum harmala L...* (*Zygophyllaceae*). ..	Leaves and fruits. ..	Harmaline, harmalol, harmine.	Narcotic upon the nervous system, causes irritation and paralysis.	Cattle & sheep.	M.
33	*Polygonum persicaria L.* (*Polygonaceae*) ..	Seeds & parts containing milky juice. ..	Narcotic substances, oxymethyl-anthraquinolin.	Irritation and smarting dermatitis	Sheep, horses swine, fish.	N.

No.	Latin name	Parts of plant	Active principle	Effect	Animals or man	Distribution
34	*Quereus spp.* (*Fagaceae*)	Unripe acrorns young leaves	Tannic acid. ..	Constipation, feces contain mucus and blood emaciation and oedema, subnormal temperature.	Cattle.	N.
35	*Ranunculus asiaticus L.* (*Ranunculaceae*). ..	Acrid juice containing parts	——	In small doses stupper and slow respiration, in large doses paralysis of the extremities, convulsions, and death.	Warm-blood animals.	N.M.
36	*Ranunculus sceleratus L.* (*Ranunculaceae*). ..	Leaves. ..	Anemenal, aconitine, delphinine. ..	Inflammation of the intestinal tract, blisters skin.	All animals. ..	M.
37	*Ricinus communis L.* (*Euphorbiaceae*) ..	All parts especially the seeds	Ricinine ..	Nausea, vomiting, gastric pain, diarrhoea, thirst, dulness of vision; if taken in quantity it may result in general weakness and cause collapse and death to animals.	Man, cattle, sheep, horses.	M.S.
38	*Rumex orispus L.* (*Polygonaceae*).	Leaves. ..	Potassium oxalate. ..	Dermatitis. ..	Susceptible .. individuals	N.
39	*Saponatia vaccaria L.* (*Caryohyllaceae*)	Seeds ..	Saponion ..	Irritation of the digestive tract, vomiting, nausea, vertigo, diarrhoea, deoresses breathing	Rabbits.	N.M.
40	*Scilla autumnalis L.* (*Liliaceae*). ..	Plant. ..	Narcissine. ..	Cerebral convulsions and erysipelas.	Rat. ..	N.
41	*Scilla siberica Andrews* (*Liliaceae*). ..	,,	,,	,,	,,	,,
42	*Senecio vernalis W. K.* (*Compositae*).	Leaves. ..	Senecionine, senecine.	——	Cattle & horses.	N.M.
43	*Senecio vulgaris L.* (*Compositae*)	,, ..	,, ,,		,, ,,	,,
44	*Solanum dulcamara* (*Solanaceae*). ..	Berries and leaves. ..	Solanine, dulcamerine, solanidine, solaneine.	Narcotic, (in large doses causes death of the rabbits) dryness of the throat and sometimes a red eruption on the skin and tendency to diarrhoea.	Rabbits.	— N.
45	*Solanum nigrum L.* (*Solanaceae*) ..	Green fruits and leaves ..	Solanine, solanidine ..	Narcotic and paralysis, salvation, vomiting, blasting and diarrhea.	Cattle, horses, sheep, goat, pigs.	N.M.S.
46	*Sorghum halepense L.* (*Graminae*). ..	Leaves. ..	Hydrocyanic acid. ..	Uneasy, staggers, falls, convulsion, increases breathing, slobbering, tongue hanging, rolling of the eyes & paralysis, death.	Horses, cattle, sheep.	N.M.S.
47	*Tamus communis L.* (*Dioscoriaceae*).	Acrid juice root, berries ..	(Resembles to bryonin)	Cathartic, death if in large quantity, vomiting, intestinal pains paralysis of hind quarter and death	Man. ..	N.
48	*Urtica urens L.* (*Urticaceae*)	Leaves ..	Formic acid. ..	Urticaria. ..	Man. ..	N.M.
49	*Viola odorata* (*Violaceae*)	Seeds & underground parts	Iridin, myrosin, and glucoside. ..	Emetic, cathartic, in large quantity, nausea, vomiting, nervousness, respiratory and cardiac disturbances.	Children. ..	N.
50	*Xanthium strumarium L.* (*Compositae*) ..	Germinating seeds ..	Xanthostrumarin. ..	Depression, vomiting, low temperature, spasmodic movement.	Sheep, cattle, pigs.	M.

N.=North; M.=Middle; S.=South:

Henry G. Greenish, *Materia Medica* (1929).

Jamis F. Couch, *Poisoning of Livestock by Plants that Produce Hydrocyanic Acid* (1932).

Leroy Abrams, *Illustrated Flora of the Pacific States* (1950).

L. H. Pammel, *A Manual of Poisonous Plants* (1911).

Martindale, *Extra Pharmacopoeia*, Vol. 1 (1941).

P. Esser, *Giftpflanzen Deutseheanad* (1910).

Rydberg, *Flora of the Prairies and Plains of Centred North America* (1932).

R. Von Ostertag, *Tierseucher and Herdenkrankheiten in Africa*, (Berlin, 1941).

Sir J. D. Hooker, *The Student's Flora of the British Island* (1884).

Strasburger. *Text-Book of Botany* (1921).

Walter Conrad Muenscoer, *Poisonous Plants of* U.S.A. (1950).

Yearbook of Agriculture. Keeping livestock, Healthy (1942).

Youngken, *Text-Book of Pharmaceutical Botany*, (1938).