

## Weed Flora of Malpura

A. S. FARODA\*

Weeds are a serious problem in the agriculture and causes much more losses than the combined losses caused by insects, pests and diseases. Some of the weeds are useful also. Flora of Rajasthan, particularly of Western Rajasthan has been surveyed by many scientists and considerable published material is available (Shanti Sarup, 1951, 1957, 1958; Rao and Kanodia, 1962-63; Bajpai and Verma 1964). But no references are available about the weed flora of this area. By keeping this in view a preliminary survey of weed flora was made for two consecutive years from 1967-69 on the farm lands and adjoining areas of Central Sheep & Wool Research Institution, Avikanagar (Malpura), Rajasthan, in winter, summer and rainy seasons.

### SOIL AND CLIMATE

Malpura town lies on 26.15° north latitude and 75.25° east longitude and is located about 90 kilometres South-West of Jaipur. The Central Sheep & Wool Research Institute is about 5 kilometre east of the Malpura town. The climate of the place is typically semi-arid characterized by extremes of temperature both in summer and in winter. In summer maximum temperature reaches upto 40°C while in winter the minimum temperature fall down as low as 1 to 2°C. The average rainfall of the area is 550 mm, spreading over an average of 35 rainy days. Most of the rainfall is received between July and September.

The soil at Central Sheep & Wool Research Institutes' farm is deep and sandy in texture containing 3 to 6% clay, 2.5 to 6.0% silt and 82.2 to 97.4% sand. It is yellowish brown at the surface, pH varies from 7.2 to 8.4 and is poor in organic matter and fertility. The soils outside the farm varies from sandy loam to clay loam.

### WEED FLORA

There are 120 species, belonging to 94 genera and 34 families. The species are listed under "Systematic enumeration". Number of herbaceous annuals was more than that of perennial woody or shrubby type weeds. Perennial weeds persist through winter and summer and are of xerophytic nature. They are

---

\*Central Sheep & Wool Research Institution, Avikanagar (Rajasthan).

drought resistant and flourish even under limited moisture conditions where as annuals cannot.

*Cyperus rotundus*, *Saccharum spontaneum*, *Erianthus munia*, *Desmostachia bipinnata*, *Cynodon dactylon* are most abnoxious perennial weeds which persist throughout the year. *Zizuphus numularia*, *Crotalaria burhia*, *Sericostoma pauciflorum*, *Aerva tomentosa*, *Artemisia vulgaris*, *Leptadenia pyrotechnica* and *Tephrosia purpurea* are shrubs and grow luxuriantly even in the hot summer period when practically all herbaceous species have dried. Though they are browsed by the animals particularly during summer months but they are a great nuisance and hinders in tillage operations. On sand dunes, cultivated and undulated land, trees like *Prosopis specigera* *Prosopis juliflora*, *Acacia arabica*, *Acacia senegal*, *Acacia leucophloea*, *Gymnosporia montana*, *Tecomella undulata*, *Zizyphus rugosa* *Capparis aphylla* are common. On low hills and rocky soils *Grewia tenax*, *Grewia villosa*, *Anogeissus pendula*, *Lycium barbarum* are found. The leaves and or Pods of these trees and shrubs are fed to the animals, particularly sheep and goats. Pods of *Acacia Leucophloea* contains HCN and are poisonous. These trees and shrubs are xerophytic in nature and are good soil binders. But they also hinders in tillage operations.

Perennial grasses like *Cenchrus ciliaris*, *Cenchrus setigerus*, *Cynodon dactylon*, *Dactyloctenium indicum*, *Dichanthium annulatum*, *Heteropogon contortus* and Perennial legumes like *Atylosia scarabaeoides*, *Indigofera enneaphylla* are found mostly in the rangelands. They are palatable and nutritious fodder plants under semi-arid conditions. Perennial shrubs like *Calotropis procera*, *Solanum ferox*, *Solanum xanthocarpum*, *Datura fastuosa* are common in waste lands. They are poisonous to the animals. *Cuscutta* (Dodder) is a serious parasite on woody shrubs, trees and cultivated crops. *Cocculus hirsutus* is also found creeping on bushes and trees.

With the onset of monsoon a large number of *kharif* annuals come up in the cultivated fields and form a dense cover on the land making cultivation of *Kharif* crops difficult unless weeding and hoeing is done several times at short intervals. They are *Sorghum halepense*, *Cenchrus catharticus*, *Celosia argentea*, *Digera arvensis*, *Tribulus terrestris*, *Crotalaria medicaginea*, *Indigofera cordifolia*, *Trianthema portulacastrum*, *Trianthema decandra*, *Amaranthus blitum*, *Amaranthus viridis*, *Amaranthus spinosus*, *Commelina benghalensis*, *Commelina nudiflora*, *Cochorus rilocularis*, *Sesbania sp.*, *Ipomea sp.* Other weeds which are found in the cultivated lands are *Borreria stricta*, *Boerhavia diffusa*, *Tragus racemosus*, *Perotis indica*, *Eragrostis sp.*, *Eleusine indica*, *Digitaria adscendens*, *Brachiaria ramosa*, *vicoa vestida*, *Vernonia cineria*, *Tridax procumbens*, *Phaseolus sublobatus*, *Phaseolus*

*trilobus*, *Heylandia latebrasa*, *Alysicappus* sp. *Portulaca* sp, *Euphorbia* sp., *Trichodesma indicum*, *Citrullus colocynthis*, *Cucumis callosus*. *Achyranthus aspera*, *Xanthium strumarium*, *Leucas aspera*, *Ocimum americanum*, *Anisomeless indica*, *Gynandropsis gynandra*, *Cleome viscosa* are common weeds in waste and uncultivated lands. In the range lands most common grasses are *Aristida* sp and *Apluda aristata* and weed *sesamum* sp. These grasses are poor in nutritive value and are less palatable. *Coccinia cordifolia*, *Coccinia indica*, *Momordica dioca*, *Melothria madaraspatana* are creepers on the shrubs, trees, fences, etc.

Very few weeds are found in the winter season. *Chenopodium album*, *Chenopodium murale*, *Asphodelus tenuifolius*, *Launea asplenifolia*, *Convolvulus arvensis*, *Melilotus alba*, *Melilotus indica*, *Spergula arvensis*, *Sonchus arvensis*, *Chichorium intibus* are the most common weeds in the rabi crops. *Argemone maxicana*, *Cnicus arvensis* and *Echinops echinatus* are found in the fallow and waste lands. They are spiny weeds,

In summer no annual weed is found. However perennial weeds like *Crotalaria burhia*, *Saccharum spontaneum* *Erianthus munia*, *Leptadenia pyrotechnica*, *Aerva tomentosa*, *Zizyphus numularia*, *Sericostoma pauciflorum*, *Aretemisia vulgaris*, *Alhagi camelorum*, *Desmostachia bipinnata*, *Cynodon dactylon* are found green giving new flushes of growth.

### SYSTEMATIC ENUMERATION

#### ACANTHACEAE :

*Lepidagathis trinervis* wall. *Dantali*, *Sevli*, *Bajardanti*. Small, spiny, spreading, perennial herb. flowers pinkish white, fruits spiny, Fl & Fr. Aug-Feb.

#### ALANGIACAE :

*Borreria stricta* Schum, *Satghanthia*. Small, erect, annual herb about 20cm high on sandy soils; Flowers white, minute, axillary cluster; Fl. & Fr Aug-Nov.

#### AMARANTHACEAE :

*Achyranthes aspera* Linn. *Latzerra*, Prickly chaff flower. Tall, 30 to 90 cm high, erect annual herb, prickly spiny fruits, Fl. & Fr. Aug-Dec.

*Amaranthus spinosus* Linn. *Kateli Chonlai*, Prickly Amarnath, Erect, 30-60 cm high, branched, prickly annual herb of rainy season; Flowers in dense auxiliary clusters.

*Amaranthus viridis* Linn. *chonlai*, Pig weed. Erect, 30-45 cm high, annual herb in rainy season; Flowers in auxiliary and terminal spikes; Fl. & Fr. Aug-Dec.

*Celosia argentea* Linn. *Silmili, Chilmili Quail grass* Tall, 1 metre high, erect annual herb during rainy season, flowers pinkish white, interterminal, conical head; Fl. & Fr Aug-Dec.

*Digera arvensis* Forsk *Lahsua*; A small, 30 to 60 cms high, erect, annual herb of rainy season; Flowers pinkish spicate; Fl. & Fr. Aug-Dec.

#### ASCLEPIADACEAE :

*Calotropis procera* R. Br. *Aak*. Perennial woody shrub, 1-2 metres high, much branched, milky juice; Fl. & Fr. throughout the year

*Leptadenia pyrotechnica* (Forsk) Decne. *Kheemp*. Tall 1 to 2 metre high, erect, perennial leafless shrub; stem green; drought resistant; Fl. & Fr. Nov-Dec.

#### BIGNONIACEAE :

*Tecomella undulata* Seem. *Roheeda*. Tall, erect, branched tree, Fl. & Fr. March-June.

#### BORAGINACEAE :

*Sericostoma pauciflorum* stocks, *Lagaria*, small, woody, strigose, perennial under shrub, on loose sandy soil, flowers white, hairy, Fl. & Fr. Aug-March.

*Trichodesma indicum* R. Br. Erect annual herb; Flowers paleblue, Fl. & Fr. Aug-Apr.

#### CAESALPINIACEAE :

*Cassia tora* Linn. *Panwar*. Erect annual herb in rainy season 60-90 cm high, flowers yellow; Fl. & Fr. Aug-Dec.

#### CAPPARIDACEAE :

*Capparis aphylla* Roth. *Kareer, ker*. Woody perennial spiny shrub; Flowers dark pink; fruits round red when ripend; Fl. & Fr. Feb-June.

*Cleome viscosa* Linn. *Pila hulhul*; Annual herb in rainy season; aromatic; Flowers yellow; Pods long; Fl. & Fr. Sept-Nov.

*Gynandropsis gynandra* Linn. *Safed hulhul*. Annual herb in rainy season, aromatic, white Flowers, Fl. & Fr. Sept-Nov.

#### CARYOPHYLLACEAE :

*Spergula arvensis* Linn. *Spurry, Gajri* Annual small winter herb., Fl. & Fr. Dec-April.

#### CELASTRACEAE :

*Gymnosporia montana* Benth. *Kankero*. A spinous shrub with pale leaves and flowers; petioles generally reddish

## CHENOPODIACEAE :

*Chenopodium album* Linn. *Bathua*, goose foot. Erect, annual herb in winter; branched, 30 to 50 cm high; flowers in dense clusters; Leaves coated with whitish material; Fl. & Fr. Oct-Feb.

*Chenopodium murale* Linn. *Khartua*. Erect, annual succulent herb in winter; leaves dark green and bigger as compared to *Bathua*; Fl. & Fr. Oct-Feb.

## COMBRETACEAE :

*Anogeissus pendula* Edged *Dhokra*. Small, deciduous tree on sandy and gravelly soil, flowers yellow; Fl. & Fr. Aug-Dec.

## COMMELINACEAE :

*Commelina benghalensis* Linn. *Badabokna*, *kana*. Small semi erect, annual herb, glabrous, rooting at nodes; Fl. & Fr. Aug-Dec.

*Commelina nudiflora* Linn. *Kana bokna*, Slender, annual creeping herb, stem rooting at nodes, Flowers blue; Fl. & Fr. Aug-Dec.

## COMPOSITAE :

*Artemisia vulgaris* Linn. *Sitadani*. Erect, 3'-4' high, perennial, herb, aromatic; Fl. & Fr. Aug-Feb.

*Cichorium intibus* *cichory*, *Kashni*. Annual winter herb with berseem, lucerne

*Cnicus arvensis* Small semi-erect annual herb in winter; purple flower; inflorescence spiny; Fl. & Fr. Nov-March.

*Echinops echinatus* Roxb. *Oont Katela*. Tall, erect, biennial, spiny herb about 0.5 to 1.5 metre high; flower heads globular & spiny; Fl. & Fr. Jan-April.

*Eclipta prostrata* Linn. *Bangra*. Small annual herb; erect; Fl. & Fr. throughout the year.

*Launaea asplenifolia* Dc. *Jungli gobi* Small decumbent herb; flower heads yellow; found throughout the year.

*Sonchus arvensis* Linn. A annual herb in winter; Flowers yellow; Leaves sessile; Fl. & Fr. Nov-Dec.

*Tridax procumbens* Linn. *Tunki*. Small, decumbent herb in rainy season 30 to 50 cm high; Flowers yellow. Fl. & Fr. Aug-Dec.

*Vernonia cineria* Less *Phulni*. Erect, 30 to 60 cm high; annual herb; flowers pinkish to purple during rainy season.

*Vicoa vestida* Benth, *Hardila*. Erect annual herb in rainy season; flowers yellow; reproduces by seeds.

*Xanthium strumarium* Linn. *Ahasisi*, *Bada gokhroo*. Tall; erect, branched herb during rainy season; fruits spiny; Fl. & Fr. Oct-Dec.

#### CONVOLVULACEAE :

*Convolvulus arvensis* L. *Hiran Khuri*. A trailing herb in cultivated fields during winter season, Fl. & Fr. Nov-March,

*Convolvulus microphyllus* Sieb. *Sinthari* Small, decumbent to climbing herb; flowers white pink Fl. & Fr. Aug-Dec.

*Cuscuta reflexa* Roxb, *Dodder*, *Amerbale*, A twining total parasite on trees and perennial crops, reproduces by seeds and stem cuttings.

*Ipomoea Spp.* Linn. *Kaladana*, *Ghiyabati*. Twining herb in rainy season, leaves trifoliolate; flowers white; Fl. & Fr. Aug-Oct.

#### CUCURBITACEAE :

*Citrullus colocynthis* Linn. *Kadtumba*, *Bitter apple*. A prostrate scabrid herb in rainy season; fruits bitter; Fl. & Fr. Aug-Dec.

*Coccinia cordifolia* Linn. *Kundari*, *Gulkanki*; Ivy gourd. A twining creeper on bushes, trees and Fences, annual herb in rainy season, Flowers white; fruits edible; Fl. & Fr. Aug-Oct.

*Coccinia indica* Wight & Arn. *Karkera*. Annual climbing herb in rainy season; flowers yellow; fruits spiny used for vegetable; Fl. & Fr. Aug-Oct.

*Cucumis callosus* Rottl. *Kachri*, *wild cucumber*. Creeper. Climbing as well as trailing herb in rainy season, annual; Flowers yellow; Fl. & Fr. Aug-Dec.

*Citrullus vulgaris* Schrad, *Tarbuji*, *Matira*, *Water melon*. Large trailing herb in rainy season, flowers yellowish; fruits round, edible. Fl. & Fr. Sept-Dec.

*Melothria madaraspata* Linn. *Ankh footbel*. A rainy season climbing herb; Fruits round; Fl. & Fr. Aug-Dec.

*Momordica dioca* Roxb *Bankarela*; Bitter gourd. Small creeper in rainy season, climbing on bushes, fences: annual; flowers yellowish; Fruits bitter; Fl. & Fr. Aug-Dec.

#### CYPERACEAE :

*Cyperus iria* Linn. *Motha*. Erect, annual sedge, about 30 cm high; spikes red, Fl. & Fr. Aug-Dec.

*Cyperus rotandus* Linn. *Motha*. Nut grass. Tall, erect perennial sedge, about 45 cm high on most muddy soil; Flowers spikes brown-red; Fl. & Fr. Aug-Dec.

#### EUPHORBIACEAE :

*Euphorbia hirta* Linn. *Badi Dudi*. Small, decumbent annual herb, about 30 cm high, flowers white; Fl. & Fr. Aug-Feb.

*Euphorbia thymifolia* Burm. *Dudi*. Small, prostrate, annual herb, much branched; Fl. & Fr. Aug-Dec.

*Phyllanthus niruri* Linn. *Hazardana*. Small, erect, annual herb; in rainy season; Fl. & Fr. Aug-Feb.

#### FICOIDEAE :

*Trianthema portulacastrum* Linn. *Santha*. *Potharchata*. Prostrate spreading annual herb; flowers pink, solitary, axillary; Fl. & Fr. July-Dec.

*Trianthema decondra* Linn. *Santha*, *Potharchata*. Prostrate, diffuse annual herb in rainy season; Flowers red in axillary custers; Fl. & Fr. July-Dec.

#### GRAMINEAE :

*Apluda aristata* Linn. Erect, annual grass, about 1 metre high Fl. & Fr. Aug-Dec.

*Aristida* sp. Linn. *Lampla*. Small, erect, annual grass, about 20 cm high, awns very troublesome; Fl. & Fr. Aug-Dec.

*Brachiaria ramosa* Linn. *Kuri*. Sub-erect, spreading, annual grass, about 30 cm high; spikes in low panicles; Fl. & Fr. Aug-Dec.

*Cenchrus catharticus* Del *Bharbhoot* Small, erect, spiny annual grass, on loose sandy soil and sanddunes; spikes prickly.

*Cenchrus ciliaris* Linn. *Anjan*, *Dhaman*, Buffel grass, Erect or semi-erect, 50 to 100 cm high, perennial grass; leaves glabrous or hairy; spikes purple-whitish; Fl. & Fr. throughout the year.

*Cenchrus setigerus* Vahl. *Anjan*, *Dhaman*. Erect or semi-erect 30 to 70 cm high, perennial grass; spikes yellow, purple or violet green; Fl. & Fr. throughout the year.

*Cynodon dactylon* Pers. *Doob*, Bermuda grass. Small, spreading perennial grass, rooting at nodes; Fl. & Fr. throughout the year.

*Dactyloctenium aegyptiacum* Linn. *Makra*. Tall, erect, annual grass, about 45 cm high on sandy soil; spike about 1 cm long; Fl. & Fr. Aug-Dec.

*Dactyloctenium indicum* Boiss. *Chanthia doob*. Small, sub-erect to procumbent, perennial grass, about 20 cm high; Fl. & Fr. Aug-Dec.

*Desmostachya bipinnata* Linn. Dab. Tall, erect perennial grass, about 45 cm high; spikes in 30 cm long racemes; Fl. & Fr. throughout the year.

*Dichanthium annulatum* Forsk *Karad*. Tall erect, perennial grass, 60-100 cm high; spikes reddish, brown-purple, terminal, Fl. & Fr. throughout the year.

*Digitaria adscendens* (H. B. K.) Henr. (*D. Merginata* Lamk).

*Jharnia*. Tall, erect, annual grass, 50-60 cm high, spikes long, terminal; Fl. & Fr. Aug-Dec.

*Eleusine indica* Gaertn. Small, erect, annual grass 20-30 cm high; spikes 3-4 terminal and one sub-terminal; Fl. & Fr. Aug-Dec.

*Eragrostis pilosa* Beauv. Small-sub-erect, annual grass, about 40 to 50 cm high; spikes violet, purple-pink. Fl. & Fr. Aug-Dec.

*Eragrostis ciliaris* (Linn.) R. Br. Small, erect, annual grass about 20 cm high, spikes solitary hairy, terminal, Fl. & Fr. Aug-Dec.

*Erianthus munja* Roxb. *Moonja*. Tall, erect, perennial grass, about 2-3 metre high; Fl. & Fr. Sept-Nov.

*Gracilea royleana* Hook. F. *Safed foolia*. Small, erect, annual grass, about 15 cm high; spikes purple to ash grey, woolly; Fl. & Fr. Aug-Feb.

*Heteropogon contortus* Linn. *Soorwal*, *Spear grass*. Tall, erect, perennial grass, about 1 metre high, spikes dark red, terminal about 10 cm long; Fl. & Fr. Aug-Feb.

*Perotis indica* Linn. *Oonderpunch*. Small, erect, annual grass in sand soils; Fl. & Fr. Aug-Dec.

*Saccharum spontaneum* Linn. *Kans*. A tall, perennial grass, 1 to 1½ metre high, highly obnoxious weed; flowers silvery white spikes; Fl. & Fr. Sept-Nov.

*Sorghum halepense* Linn. *Baru*, *Jhonson grass*. Tall, erect, 2 to 2½ metre high, annual grass in rainy season; poisonous due to HCN in young stage; Fl. & Fr. Aug-Nov.

*Tragus racemosus* Hook *Chirichawlia*. Small, erect, annual grass about 10 cm high, spikelets 1-2 flowered; Fl. & Fr. Aug-Dec.



## LABIATAE :

*Anisomeless indica* Linn. Catmint; A biennial, tall, 60-90 cm high, erect, branched herb; flowers Pink. Fl. & Fr. Aug-Dec.

*Leucas aspera* Spreng Gooma. Erect, or diffuse, 15 to 30 cm high, annual herb, flowers white; in globular heads; Fl. & Fr. Aug-March,

*Ocimum americanum* Linn. Bantulshi, Bapji. Erect, 30 to 60 cm high, much branched rainy season annual, aromatic herb; Flowers white; fruits brown, in verticillate clusters, Fl. & Fr. Aug-Nov.

## LILIACEAE :

*Asphodelus tenuifolius* Cav. Pyazi. Small annual of rabi-season, leaves 15-30 cm, acuminate shape; Fl. & Fr. Oct-Feb.

## MALVACEAE :

*Abutilon indicum* Sweet Kanghi. Country mallow. perennial shrub, 3'-5' high, much branched, yield fibre; flowers yellow.

*Sid cordia*. Chirakli ka Ladoo Perennial, small, undershrub; flowers yellow.

## MENISPERMACEAE :

*Cocculus hirsutus* (L) Diels. Peelwan. A straggler all over, on bushes especially near habitations; Fl. & Fr. Oct-Dec.

## MIMOSACEAE :

*Acacia arabica* Willd Babool, Kikar. Tall, erect, 8'-20' feet high tree, shrubs having stipulated spines; Flowers yellow; Fl. & Fr. Aug-June.

*Acacia senegal* Willd. Kheri, Kumta. Small, erect, 5'-10' high spiny shrub, tree, drought resistant; Flowers pale; Fl. & Fr. Aug-Mar.

*Acacia leucophloea* Willd Aranj, Ronge. A medium size, erect, branched tree, pods are dark purple or white, Pods poisonous, yellowish bark. Fl. & Fr. Aug-June.

*Prosopis specigera* Linn. Senger, Khejri. Tall, erect shrub tree 3'-15' high, Perennial; Fl. & Fr. March-June.

*Prosopis juliflora* DC. Vilayti Khejri. Small, spiny, drooping tree, on sandy soil, flowers yellow in long catkins, fruits flat, about 15 cm long. Fl. & Fr. Aug-May.

## NYCTAGINACEAE :

*Boerhavia diffusa* Linn. *Bishkhapra*. Large, trailing, branched, perennial herb, flowers minute, pinkish; F.l. & Fr. Aug-Feb.

## PAPAVERACEAE :

*Argemone mexicana* Linn. Prickly poppy, *Satyanashi*; A strongly branched winter annual with sessile, semi-amplexicant leaves, prickly leaves & fruits, Flowers yellow; Fl. & Fr. Oct-Dec.

*Vaccaria* sp. Linn. *Sita Sarson*. A winter herb. toproot, erect leaf sessile; flowers regular, yellow; Fl. & Fr. Oct-March.

## PAPILIONACEAE :

*Alysicarpus* sp. Erect, small legume, annual in rainy season.

*Atylosia scarabaeoides* Linn. *Bankulthi*. A prostrate or twining herb, trifoliolate, perennial; Fl. & Fr. Aug-Dec.

*Alhagi camelorum* Fusch. *Jawasa*; Camelthron. Perennial, prickly herb, 15 to 30 cm high; Fl. & Fr. March-June.

*Crotalaria burhia* Hamilt *Sannia*. Perennial, erect, 60-100 cm high, leaves linear and thick, drought resistant, flowers yellow; Fl. & Fr. throughout the year.

*Crotalaria medicaginea* Lamk. *Googru*, *Zozdru*. Small, 30 to 60 cms high, annual herb, flowers yellow, fruits round; Fl. & Fr. Sept-Dec.

*Heylandia latebrosa* Linn. *Dhakani*. Small prostrate annual herb, during rainy season on open ground with hard soil, flowers yellow; fruits single seeded flat & round pods; Fl & Fr. Aug-Nov.

*Indigofera cordifolia* Heyne. *Bekaria* Small 15, 30 cm high, erect annual herb during rainy season; Flowers pink; Fl. & Fr. Aug-Dec.

*Indigofera enneaphylla* Linn. *Bekaria*. Prostrate, perennial herb, flowers pink; Fl. & Fr. Sept-Feb.

*Melilotus alba* Decn. *Safed Senji*. Small, about 30 cm high, erect, winter annual herb, flowers white; Fl. & Fr. Nov-Dec.

*Melilotus indica* Linn. *Pili Senji*. Small, about 30 cm high, erect, winter annual herb, flowers yellow; Fl. & Fr. Nov-Feb.

*Phaseolus trilobus* Ait. *Ban Moth*. Annual herb in rainy season 30-60 cm high; Flowers yellowish. Fl. & Fr. Sept-Dec.

*Phaseolus sublobatus*, Ban Moong. Annual herb in rainy season, 30-60 cm high, flowers yellowish; Fl. & Fr. Sept-Dec.

*Sesbania sp. Dhencha*. Erect, 1 to 1.5 metre high, annual herb in rainy season; flowers yellow; Sept-Dec.

*Tephrosia purpurea* Pers. *Dhamasa*. A common under shrub all over wastelands and road sides, erect, 30-60 cm high, perennial; flowers pink-purple; Fl. & Fr. Aug-Dec.

#### PEDALIACEAE :

*Sesamum sp. Wild Til*. Tall, erect, annual herb, about 50 to 100 cm high, on sandy soil; flowers pink to purple; Fl. & Fr. Aug-Dec.

#### PORTULACACEAE :

*Portulaca oleracca* Linn. Parsley, *Baranoonia*. A rainy season, flesh leaved prostrate herb.

*Portulaca quadrifida* Linn. Parsley, *Chhota noonia*. Procumbent, fleshy, rainy season herb.

#### RHAMNACEAE :

*Zizyphus numularia* Wt. and Arn. *Jharberi or Pala*. Perennial, prickly shrub 30-60 cm high; drought resistant, Fl. & Fr. Oct-Dec.

*Zizyphus rugosa* Lamk, *Ber*. Perennial spiny shrub, 1 to 2 metre high; Fl. & Fr. Oct-Feb.

#### SOLANACEAE :

*Datura fastuosa* L. *Dhatura*, Thorn apple, Erect, branched 1'-3' high perennial succulent herb; fruit globose, spiny; Fl. & Fr. throughout the year.

*Lycium barbarum* Linn. *Morayli*. Erect shrub, about 2 metre high, on coarse, sandy soil, flowers white, tubular; Fl. & Fr. Aug-Apr.

*Physalis minima* Linn. *Chirpoti, wild raspberry*. Erect, annual herb in rainy season, about 45 cm high; flowers palewhite; capsules bulbous berries; Fl. & Fr. Aug-Nov.

*Solanum nigrum* Linn. *Makoi*. Erect, annual herb in winter season, flowers white, fruits red berries; Fl. & Fr. Nov-Feb

*Solanum ferox* Linn. *Ram Began*. An under shrub, 3-4 ft high, flowers purple, fruits yellow; Fl. & Fr. throughout the year.

*Solanum xanthocarpum* Seh. & Wendl *Kateli*. Small spiny shrub, flowers violet, fruits yellow berries, Fl. & Fr. Aug-May.

## TILIACEAE:

*Corchorus trilocularis* Linn. *Wild Jute*. Annual herb in rainy season, 30 to 45 cm high, erect, much branched; reproduces by seeds; Fl. & Fr. Oct-Dec.

*Grewia tenax* (Forsk) Fiori. Small perennial shrub on rocky hills, flowers yellow, fruits orange-red, 2-3 seeded; Fl. & Fr. July-Feb.

*Grewia villosa* Wild Small perennial, hairy shrub on rocky low hills, flowers yellow; fruits densely hairy, brown-red; Fl. & Fr. Aug-April.

## ZYGOPHYLLIACEAE.

*Tribulus terrestris* Linn. *Kanti or chhota Gokhru*. Puncture vine. Prostrate, spreading annual herb in rainy season, fruits spiny; Fl. & Fr. July-Oct.

## REFERENCES

Bajpai, M. R. and Verma, J. K. Weed flora of Jobner *Ann. Arid Zone* 2 (2) : 169-180 (1964).

Rao, S. and Kanodia, K. C. Studies on the vegetation and flora of Jodhpur Division, Rajasthan State. *Ann. Arid Zone* Vol. 1 and 2 (land 2) (1962-63).

Shanti Sarup. A list of some common plants of Jodhpur and its Neighbourhood. (1951)

A List of some common Plants of Bikaner and its Neighbourhood. (1957).

A List of some common Plants of Jaisalmer and its Neighbourhood. (1958).