

The Community of Mixed Skin Plants (*Calligoneta Caput-Medusa*, *C. Leucocladum*) and Their Distribution in the Red Desert

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Abstract: Under certain conditions, often in secondary living conditions, juzug as a dominant or subdominant plant participates in the formation of almost all communities of psammophilic plants. Juzgun can be a shrub or tree up to 2.5 (5) m high, depending on growing conditions, dominating the first or second tier (story) in most communities, the growing season of the plant begins in March it blooms in April, bears fruit at the end of May, and stops growing with the onset of autumn frosts. The absorptive leaves begin to shed at the same time as the fruits in some hot and drought years, but in years of sufficient moisture, the thin stringy leaves may persist until late fall. Seeds that remain underground in winter begin to germinate in early spring. In most species, seed germination is maintained for 5-9 years, taking into account the spread of the fruits of the plant by the wind, only those that fall into favorable conditions can germinate [2].

Key words: sandy massifs, psammophilous plants, bush, sedge, nodule, main root, groundwater, glycopsammophyte, association, small undulating sands, sandy layer.

Introduction. Juzgun belongs to the Polygonaceae family, distributed in the Mediterranean region, Asia and North America, and includes about 80 species. Species of the Colligonum genus are widespread in the sandy deserts of Central Asia. They often participate in the formation of all psammophilic plant cover as a dominant or subdominant plant in certain ecological conditions, in secondary living conditions. A shrub or tree with a trunk height of 1.0-2.5 (5) m, depending on the lifestyle and growth rate. Juzgun blooms in the second half of April, the flowers are very beautiful, it bears fruit in May, and the growth period stops with the onset of autumn frosts. participates in the period. The flowers are white, pink, pink-purple, green. They are bisexual, fragrant, smelling simple, 5-membered flowers located in the axils of the leaves. The seeds are edged - winged, and have a relatively hard pericarp. Immature seeds are beautiful, bluish, light red, pink, juicy and have a pleasant sour taste. Ripe and dry seeds are winged or spherical in shape, consisting of hard cellulose, and are easily dispersed by the wind. (fig. 1.2.3)



1-fig,

2-fig,

3- fig.

The seeds have a hard woody shell that protects them from unfavorable conditions, but delays germination, so seed germination is usually low. During periods of hot and humid summer, some of the absorbent leaves are shed at the same time as the fruits are set, but in wet growing years they may retain their leaves until late autumn and continue to grow. Seeds buried under the soil in winter begin to germinate in early spring. In most species, the germination of seeds is preserved for 5-9 years, which allows them to germinate only when the conditions are favorable.

Juzgun's spring young vegetative shoots, leaves and fruits have a sharp, pleasant sour taste and are easily eaten by sheep and camels. In winter, sheep eat fallen leaves, twigs and fruits. The nutritional value of these products is much higher in conventional feed units. Their green branches contain vitamins and tannins. The plantations created by sowing juzgun seeds are a good phytomeliorant for degraded, volatile sand massifs, and can also be used in the restoration of mobile sand massifs, i.e., by using sand collecting furrows, to carry out phytomelioration works. In the first year of a young plant's life, the main root penetrates to a depth of 60-70 centimeters, after a year its length reaches a meter or more, and horizontal lateral roots grow, the total area occupied by the horizontal roots of a 5-6-year-old juzgun can reach 2 m². [4]

The distribution and reproduction of species of juzgun depends on the ecological conditions of the environment. If the ground water is deep in the areas where mixed juzguns grow, they take the shape of a bush and reach a maximum height of 1.5 meters. According to the information of many researchers, they associate the spread of sand dunes with the mobile - unsettled sands that are formed as a result of the destruction of the vegetation cover. In most cases, according to our observations, the distribution of juzgun fields in the studied area is described as having occurred in place of the most intensively used wind-blown (eolian) sandy pastures.

In the study area, mixed swamp forests are distributed in the sandy expanses of the intermontane low plains of Auminzatau and Kuldjuktai (remnant mountains) and extend south to the dry streams of the old Makhandarya.

Here, the distribution of plant covers consisting of mixed juzguns is connected with the relatively small amount of sand layer. We classify the mixed Juzgun plant association as glycopsammophyte (moderately saline). Here, in addition to the juzgun (*Calligonum eriopodum*) edificator, trees: white saxophone-*Haloxylon persicum*, *Kuensuek-Ammodendron conollyi* and *cherkez-Salsola richteri* also participate in juzgun communities. From the bushes: *Singren-Astragalus unifoliolatus*, *A. villosissimus* and *Qyzylcha-Ephedra strobilacea*; from small bushes: *partek-Convulvulus hammadiae*, *C. divaricatus* and wormwood - *Artemisia turanica*, *A. diffusa* species are distributed.

In our geobotanical research in the South-eastern part of Kyzylkum, two new associations of juzguns were found: (1) Ilokli-shuvogli-juzgunzor; (2) Ilakli-richly-syngrain-dzuzgunzor; (3) Ilakli-partekli-singrenli-dzhuzgunzor and (4) Ilokli-Cherkesli-dzuzgunzor are noted. These associations are not included in the list of Juzgun associations published in 1973 in volume 2 of the collection entitled "Plant cover of Uzbekistan". Below is a description of the newly listed associations named above;

1-Wormwood-sowry association (*Calligonum leucocladum*, *C. microcarpum* - *Artemisia diffusa*, *A. turanica* - *Carex hypsodes*) This association is distributed in the thin sandy massifs of Southern Kyzylkum. The characteristic association of this association is distributed in sandy soil areas 8 km east of Radiokuduq. The relief of the place is slightly sloping, in a poorly fortified sandy area, only examples of *Haloxylon persicum*, *Astragalus unifoliolatus* were found. The plant community is dominated by juzgun species: *Calligonum microcarpum*, *C. leucocladum*. The subdominants of this association are *Artemisia turanica*, *A. diffusa*. Juzgun bushes and ephemerals form a green-gray color aspect. In the studied association, the vegetation cover of the soil is 40-45%. The percentage of ilok in the coating is up to 10-15%.

2-Land-rich-syngrain-syngrain forests. (*Calligonum leucocladum*, *C. microcarpum*, - *Astragalus unifoliolatus* *Salsola arbuscula*- *Carex phisodes*) The formation and development of this association is related to the thickness levels of the sand cover. This association. 3.5 km west of the Jakasan well, it is described in a low-flat sandy area. ,

The upper layer of the association is dominated by black saxophone, the average height of which is 1.9 - 2 m. Shrubs (*Calligonum eriopodum*, *C. microcarpum*, *A. villosissimus*, *Salsola arbuscula*) dominate in the second tier, wormwood (*Artemisia diffusa*, *A. turanica*) prevails in the third tier. The lowest level is made up of ephemera. The floristic composition of the union consists of 17 species.

3. Iloqli-partekli-singrenli-dzuzgunzor These associations (communities) are distributed in areas where the soil surface of the South-West Kyzylkum is slightly covered with sand and small stones. The soil of this area is very dry and hard, with a plaster layer starting from 30-35 cm. In the 1st layer of the plant cover, Jizgun, in the 2nd layer - singren, in the sandy areas of the 3rd partek, and the 4th layer is mostly found. The total coverage of the association with plants is 60%, and 15-20% of it corresponds to the ilok plant.

4. Ilaqli-Circassian-Juzgun community (*Calligonum leucocladum*, *C. microcarpum*-*Salsola richteri*-*Carex phusodes*) Such communities are limited by sand hills and sandy massifs, where the plant cover has been disturbed by anthropogenic influence, and can be found in different areas of the sandy desert of Uzbekistan. This association was described on May 18, 1981, 5 km west of the Pakhmatbobo well. The Ilak-Cherkesov-Juzgun community is scattered on the slopes of the low-high sand dunes and Singren, Partek, Iloq, and Pasplikla. In some places, the total vegetation cover is 65%. Plants in the community are made up of four layers.

In the upper tier, the saxophone dominates at a height of 1.5-2 m. The second one is dominated by two species of convolvulus - *Colligonum leucocladum*, *C. microcarpum* (height 60-90 cm). The base of the third layer is made up of partek (*Convolvulus hamadae*) with a height of 25-30 cm. In the lower grassy layer, in the lowlands, ilac forms a complete cover, and in the high places of the relief, a sparse ephemeral vegetation cover is represented.

In conclusion, juzgun plant in most cases forms secondary communities, i.e. mixed juzgun communities, participates as a dominant or subdominant plant of fortified and semi-fortified sandy massifs. It is also considered a good phytomeliorant in the development of sandy massifs.

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