

Does environmental gradient affect morphological and photosynthetic characteristics of Haloxylon ammodendron?

However, there are few studies on the physiological characteristics of Haloxylon ammodendron under an environmental gradient. Here, we studied the changes in the morphological and photosynthetic characteristics and their correlations in Haloxylon ammodendron in the four habitats of the Ebinur Lake wetland.

Does Haloxylon ammodendron respond to global change?

Therefore, the study of morphological and photosynthetic characteristics of Haloxylon ammodendron under water and salt gradient will provide scientific basis for the response of Haloxylon ammodendron to global change.

How are Haloxylon ammodendron plants selected?

In each quadrat, two mature and healthy Haloxylon ammodendron plants were selected as test plants; if there was no plant in a certain quadrat or the growth was not well, the nearest one was selected laterally outside the quadrat. A total of 62 trees were selected.

Does Haloxylon ammodendron maintain ecological balance in arid desert areas?

Multiple requests from the same IP address are counted as one view. In arid desert areas, Haloxylon ammodendron plays an important role in maintaining the ecological balance of desert oases. However, there are few studies on the physiological characteristics of Haloxylon ammodendron under an environmental gradient.

What are the characteristics of Haloxylon ammodendron?

Owing to its highly developed root system, the plant has many adaptive characteristics such as drought resistance, high-temperature resistance, salt and alkali resistance, wind erosion resistance, and cold resistance. Haloxylon ammodendron has become the largest tree species for dune fixation afforestation in the arid desert of northwest China.

Why is Haloxylon ammodendron important for dune fixation afforestation?

Haloxylon ammodendron has become the largest tree species for dune fixation afforestation in the arid desert of northwest China. The species thus plays an important role in maintaining the ecological balance between desert and oasis [7].

Future N deposition and precipitation changes will be beneficial for the growth of Haloxylon ammodendron in Gurbantunggut Desert, northwest China

The planting of Haloxylon ammodendron (C.A.Mey.) Bunge was selected as the case study, as it is one of the most widely used tree species in afforestation programs in arid regions, and

Currently, Haloxylon-dominated vegetation is threatened by overexploitation and the dramatic climate change occurring in Central Asia. Losses in both biomass and habitat ...

We present here the long-term transpiration of Haloxylon ammodendron, a dominant species growing at the southern edge of the Gurbantagay Desert, China, during the growing seasons from 2009 to ...

Trees small, 1-9 m tall. Trunk to 50 cm in diam. at ground level; bark gray-white; wood hard, brittle; older branches gray-brown or light yellow-brown, usually fissured annular; annual branches obliquely spreading or pendulous, long, thin, internodes 0.4-1.2 cm \times ca. 1.5 mm. Leaves slightly spreading, scale-like, broadly triangular, apex obtuse, awnless; leaf axil cottony.

It was concluded that under high-radiation conditions drought stress causes photoinhibition of H. ammodendron and increasing air humidity or soil moisture content can reduce photoinhibition and increase the efficiency of solar energy use. About 20-year-old desert plants of C4 species, Haloxylon ammodendron, growing at the southern edge of the Badain ...

The shrub/dwarf tree Haloxylon ammodendron is a prevalent woody plant used to combat desertification in the arid and semi-arid regions of northwestern China. Despite its drought resistance, artificial stands of this species experience significant degradation approximately ten years post-afforestation. Stumping, which involves cutting a portion of the ...

4 \times Haloxylon ammodendron (C.A. Mey.) Bunge ex Fenzl, a typical xerophytic tree species found in deserts, plays an important role in sand stabilization. Previous studies have shown that the well-developed vertical root systems of H. ammodendron enhance its ability to absorb groundwater, contributing to its high drought resistance in arid and semi-arid regions (Dai et ...

Abstract. Haloxylon ammodendron is a xerophytic perennial shrub or small tree that has a high ecological value in anti-desertification due to its high tolerance to drought and salt stress. Here, we report a high-quality, chromosome-level genome assembly of H. ammodendron by integrating PacBio's high-fidelity sequencing and Hi-C technology. The assembled genome ...

The results show that the solar energy converted from 1 m² of PV panels is equivalent to the solar energy that is utilized by 260.75 m² of desert plants in the desert area. ... 2 of artificial Haloxylon ammodendron forest and 2 of Haloxylon ammodendron + Nitraria tangutorum. The quadrants were selected in 2002, and observations were made in ...

Haloxylon ammodendron (H. ammodendron) is a second-class protected plant of national significance in China that is known for its growth in desert and semidesert regions, where it serves as a desert ecosystem ...

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In arid desert areas, Haloxylon ammodendron plays an important role in maintaining the ecological balance of desert oases. However, there are few studies on the physiological characteristics of Haloxylon ammodendron under ...

About 20-year-old desert plants of C4 species, Haloxylon ammodendron, growing at the southern edge of the Badain Jaran Desert in China, were selected to study the photosynthetic characteristics ...

Haloxylon ammodendron (C.A.Mey.) Bge. is crucially important for stabilizing sand dunes in the desert area of the Junggar Basin and has thus been widely planted in the oasis-desert ecotone for windbreak and sand ...

About 20-year-old desert plants of C4 species, Haloxylon ammodendron, growing at the southern edge of the Badain Jaran Desert in China, were selected to study the ...

This study compared it with Haloxylon ammodendron, a C 4 species, regarding the interactive effects of drought stress and different leaf-air vapor pressure deficits. Variables ...

Haloxylon ammodendron is a remnant of the ancient Mediterranean flora and is mainly distributed in desert areas with low rainfall (30-200 mm) in Africa and Asia. Owing to its

Competition, spatial pattern, and regeneration are important factors affecting community composition, structure, and dynamics. In this study, we surveyed 300 quadrats from three dunes (i.e., fixed dunes, semifixed dunes, and mobile dunes) in the Gurbantunggut Desert, Northwest China, from late May to early June in 2021. The intraspecific and interspecific ...

Haloxylon ammodendron (*H. ammodendron*) is a second-class protected plant of national significance in China that is known for its growth in desert and semidesert regions, where it serves as a ...

We found that: (1) The dominated terrains of *H. ammodendron* and *H. persicum* were different; (2) The individual morphology of the two Haloxylon species changed significantly with the terrains (p ...

Haloxylon ammodendron (Saxaul) is a plant species with a broad ecological range. Communities of this species mainly inhabit the following habitats: 1) stony deserts, or hamadas, 2) dried beds of temporary rivers (sairs), 3) sandy deserts, 4) depressions, or takyr (Kazantseva, 2014).

Haloxylon ammodendron is a preferred shrub species for buffering against wind and fixing sand in arid sandy areas of northwest China. To determine whether sandstorms cause damage to *H. ammodendron* seedlings, we investigated the effects of wind-blown sands on the photosynthetic function of *H. ammodendron* by simulating

sand-carrying wind in the wind ...

2.2.2 Artificial planting (M2) This mode involves artificial planting of native shrubs or herbs, such as Haloxylon ammodendron, Hippophae rhamnoides, inside and around the perimeter of the PV plants. Additionally, low drought-tolerant windbreak and sand-fixing plants like Agriophyllum squarrosum, Medicago sativa, and Calligonum mongolicum, etc., can be planted ...

Haloxylon ammodendron (H. ammodendron) is a second-class protected plant of national significance in China that is known for its growth in desert and semidesert regions, ...

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