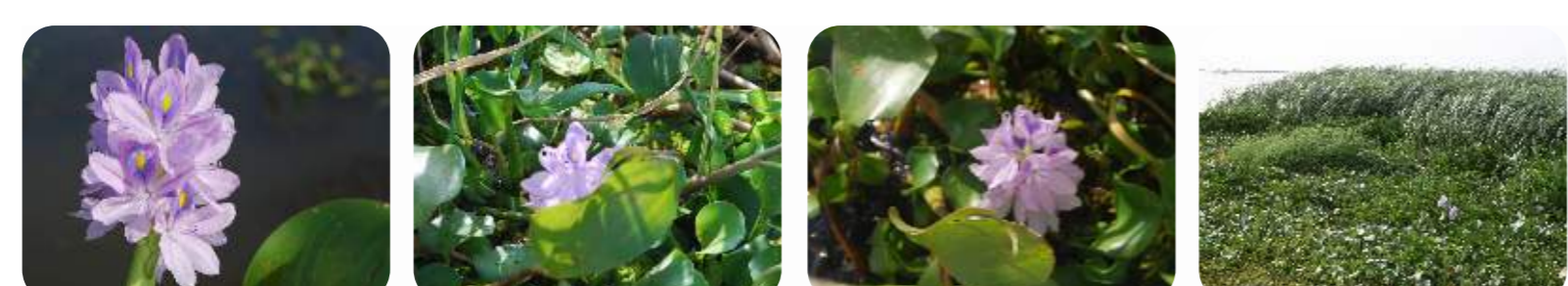




Pontederia crassipes

Family name: **Pontederiaceae**Common name: **Pontederiaceae**

Local name: (اعشاب النيل) Ashab Al Neel

**Wild, Introduced**

Role in Biodiversity

In its natural habitat, water hyacinth provides shelter and feeding grounds for fish, phytoplankton and zooplankton. Some types of birds depend on aerenchyma of water hyacinths in periods of food shortage, as well as several of the insects taking nectar during flowering.

In large quantities, this species has negative effects on the environment, human health and the economy, since it directly affects aquatic life in freshwater bodies.



Environment and Growing

Water hyacinth grows well in water with high nitrogen and phosphorus levels, often in eutrophic conditions caused by agricultural runoff or untreated sewage. It requires abundant sunlight for photosynthesis and slow-moving or stagnant water bodies. It is highly sensitive to frost and does not survive prolonged exposure to temperatures below 0°C.

Growth requirements:

- Water Depth: 30 cm to 1 meter.
- Temperature range 20°C- 0°C
- PH: 6.5-8.5.
- Light: Full sun, 6 to 8 hours a day.



Reproduction and Communication

Water hyacinth reproduce sexually by seeds or asexually by stolons. Flowers of this plant emit a mild scent and produce nectar at their bases. They are brightly colored, serve as nectar guide to direct pollinators to the flower's reproductive organs. Bees are particularly attracted to these colors.



Life span

A single plant of Water hyacinth usually lasts for a few months in optimal conditions before senescence. However, its ability to propagate rapidly through vegetative reproduction, means the lifespan of the population is effectively indefinite unless controlled.



Size

Water hyacinth can reach 1 metre high when established in dense mats.



Parts



Stems are branched, stoloniferous rhizome, 6 cm in diameter and up to 30 cm in length, and with several short internodes

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Roots are 50% of a single plant's biomass. They are adventitious and fibrous, 10-300 cm in length. Lateral roots give the roots a feathery appearance. They are dark violet to bluish or pinkish violet.



Leaves are petiolate, glossy, spirally arranged, rosette. Petioles are spongy, elongated, swollen in the middle and tapering towards the blade.



Flowers are lavender to purple, with a distinctive yellow spot on the upper petal. They are borne terminally on a lavender spike on an elongated peduncle and are subtended by two bracts.

Fruits are thin-walled capsules enclosed in a relatively thick-walled hypanthium developed from the perianth tube.

Seeds are many (450 per capsule), with an oval base and tapering apex, and longitudinal ridged coat.

INTRODUCTION

Aquatic herb

Pontederia Crassipes, water-hyacinth, is a free-floating perennial aquatic macrophyte plant found in nutrient-rich, freshwater systems such as rivers, lakes, ponds, wetlands, and irrigation channels. It is native to Brazil and the Amazon, but is also found in many tropical and subtropical regions. *Pontederia Crassipes* is characterized by thick, glossy, and ovate leaves and a long, fibrous, multidimensional root, which is purplish black in color. Although it is considered one of the worst invasive aquatic plants worldwide, it is also used in many countries as food, animal fodder, medicine, and fuel.

In Sudan, *Pontederia Crassipes* was reported as an introduced and invasive plant in the White Nile. In 1960 the whole White Nile from Juba to Jebel Aulia dam 3270 km was invested and the native free floating cabbage pushed to small khor and lagoons. Now this plant is almost naturalized and dominant in many areas, especially along the white Nile

LIVELIHOODS / CULTURE

Cultivation

Water hyacinth is not cultivated in Sudan.

Cultural Value

The presence of Water hyacinth weeds in the White Nile has led to a decrease in fish stocks, as the proliferation of the hyacinth plant and its entanglement, forming a plant cover extending over a wide area on the surface of the water, blocks light from the fish and reduces the amount of dissolved oxygen in the water, which prevents the growth of algae and aquatic plants that fish feed on, which reduces the size of the fish stock or perhaps eliminates it. This in turn leads to economic damage, as citizens who live on fishing are deprived of this important source of livelihood and profit, especially if fishing is the main profession in their livelihood.

The presence of this weed also prevents the use of primitive fishing tools such as harpoons and nets. As for the relationship of this plant to human and animal health and to disease-carrying germs, the accumulation of water hyacinths serves as a shelter and a breeding ground for disease-carrying germs, such as mosquitoes that carry malaria and snails that are the carriers of schistosomiasis, in addition to germs that cause jaundice.

It is also noted that they form an environment for crocodiles and snakes. The accumulation of weeds on the banks of the river has caused a noticeable decrease in the quantities of drinking water for the residents living around the area. Also, the decomposition and rotting of the plant makes the water sometimes unfit for drinking, with the high cost of purification.

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Cultural Expressions

Information not available.

THREATS

Water hyacinth is not classified as an endangered or threatened species. According to rapid reproduction, adaptability, and ability to form dense mats of vegetation, it is considered as one of the world's most invasive aquatic plants.

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