

Peganum harmala - Syrian Rue

- Zygophyllaceae - Western Asia to India



Growing from a perennial woody rootstock, *Peganum harmala* is a bright-green, densely foliated, herbaceous succulent. Although its smooth many-branched stems may have a spread of four feet or more, the plant is rarely over two feet tall and generally appears round and bushy in habit. Its leaves are two inches long, born singly and finely divided into long narrow segments.

Each year between June and August, *P. harmala* produces many single white conspicuous flowers. Measuring one to one and one-half inches across, these relatively large and showy blooms have five oblong-elliptic petals as well as five narrow sepals of slightly longer length. Each flower has the potential to develop into a fruit--a leathery, three-valved seed capsule that stands erect on its stalk. Each capsule measures about three-eighths inch in diameter and contains more than fifty dark-brown, angular seeds.

The seeds, as well as the roots, of *P. harmala* contain a mixture of the harmala alkaloids, harmine and harmaline. These unusual alkaloids are psychoactive derivatives of β -carboline. When administered to man, the harmala alkaloids are serotonin antagonists, CNS stimulants, hallucinogens and extremely potent, short term MAO inhibitors. Interestingly enough, neither harmine, harmaline nor *P. harmala* is included in the Federal Controlled Substance Act. Present at 3% by dry weight, the harmala alkaloids may be extracted from the seeds and roots of *P. harmala* and purified as crystalline bases. Hasenratz described this process in 1927.

P. harmala, or Syrian Rue, is the plant from which harmine was first isolated, as well as a source of harmaline and tetrahydroharmine. Total β -Carboline content runs almost 4% by weight in the seeds of Syrian Rue. These alkaloids occur in roughly the same proportions as in *B. caapi*. Ten grams of Syrian Rue seeds provide about 400mg of total β -Carbolines, about that amount in a typical dose of ayahuasca.

Syrian Rue grows in semi-arid conditions. It originated in Central Asia, and is held in high esteem throughout Asia Minor as a medicinal, aphrodisiac and dye plant. There is no solid historical evidence of ritual or religious use. It is sometimes known as "ruin weed" since it often grows on the tells covering the ruins of ancient cities in the Near East. It now grows wild in Eurasia and has recently been spread to Texas, Nevada, New Mexico and Southern California.