Pharmacognosy 3d class

Isolation of Harmala Alkaloids

BY

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Harmal

Harmal is a perennial plant which grows spontaneously in semi-arid conditions, and sandy soils, widely distributed and used as a medicinal plant in Central Asia, North Africa and Middle East.

Scientific classification

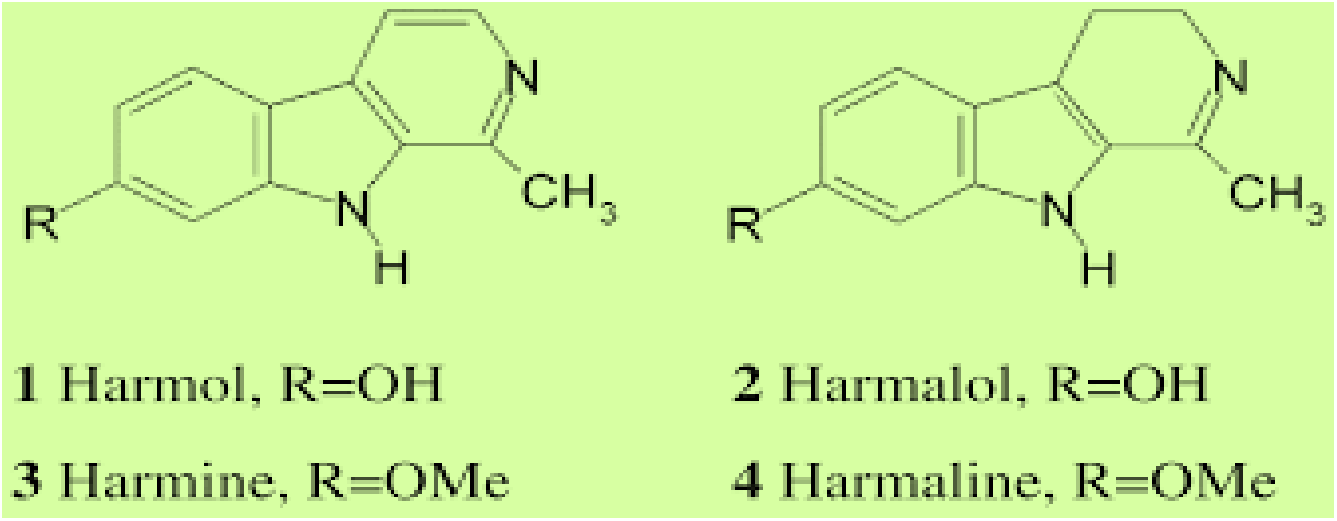
Scientific name: *Peganum harmala* L.

Family: Zygophyllaceae

Common name: Wild Syrian rue

Chemical composition

Analytical studies on the chemical composition of the plant show that the most important constituents are beta-carboline alkaloids such as harmine, harmaline, and harmalol.



Active parts:

- Seeds
- Roots
- Bark

Activity

P. harmala and its active alkaloids, *have* different pharmacological and therapeutic effects especially harmine and harmaline.

- Antimicrobial effects
- Antitumor activity
- Antidepressant
- Antileishmanial

Solubility

Slightly soluble in water, alcohol, and ether, but quite soluble in hot alcohol, dilute acids and Soluble in chloroform .

Procedure

1. Put 30 gm of harmal powdered seeds in a conical flask and defat it with 65ml of hexan for 30 min with stirring , and then filtration.

2. Extract the seeds residue with 120 ml of (5%HCL) +(60% MeOH), heating for 30 min at 50C.

3. Centrifuge the extract and collect the filtrate.

4. Evaporate the MeOH by heating.

5. Aqueous extract was alkalinized with (25% NaOH).

6. Transfer to separatory funnel and add chloroform to form two layers.

Identification

Draggendroff reagent :

1 ml of extract + drop by drop of reagent

Brown ppt


THANK YOU