

PART II

SECTION (A)

MORPHOLOGY OF THE PLANT

Adenantha pavonina AND THE

CHARACTERISTICS OF ITS

CONSTITUENTS

SECTION (B)

CHEMICAL INVESTIGATIONS OF THE

Adenantha pavonina SEED POLYSACCHARIDE

PART II

SECTION (A)

MORPHOLOGY OF THE PLANT *Adenantha pavonina*  
AND THE CHARACTERISTICS OF ITS CONSTITUENTS

MORPHOLOGY OF THE PLANT *Adenanthera pavonina* AND THE  
CHARACTERISTICS OF ITS CONSTITUENTS.

*Adenanthera pavonina* Linn., belongs to the family, Leguminosae. It is found in the eastern sub-Himalayan tract, in the western ghats in Burma and Andamans. The tree grows well in moist areas and is easily propagated by cuttings. It is distributed along road sides, especially in southern India.

*A. pavonina* (Fig. 1.1) is a moderate-sized deciduous tree<sup>1</sup>, upto 60-80' in height and 7-8' in girth. The leaves are bipinnate and the glabrous leaflets are ovate. The small white and yellowish flowers are in spike-like racemes and 6-8" in length. The seeds (Fig. 1.2) are shining scarlet in colour. The pods are linear narrow and contain hard seeds.

The heart wood of *A. pavonina* is red and is reported to be used as a substitute for true red sandal wood (*Pterocarpus santalinus*). It is used in south India for building purposes, furnitures and cabinet-making. The powdered wood<sup>2</sup> mixed with water is used for applying to the forehead in cases of headache from over-exertion or exposure. The powder made from the seeds<sup>2</sup> is used as external application in hastening suppuration, and in gonorrhoea. A decoction made from the seeds is used in rheumatism. The emulsion, made by rubbing the seeds on a stone with water, forms a cooling external application useful in headache and in the early stages of inflammation. The seeds are also used for beads, necklaces and as a flux for soldering gold ornaments. Powdered and beaten up with borax, they give a good cement. The bark is used for washing cloths and hair. A decoction



FIG. 1.1

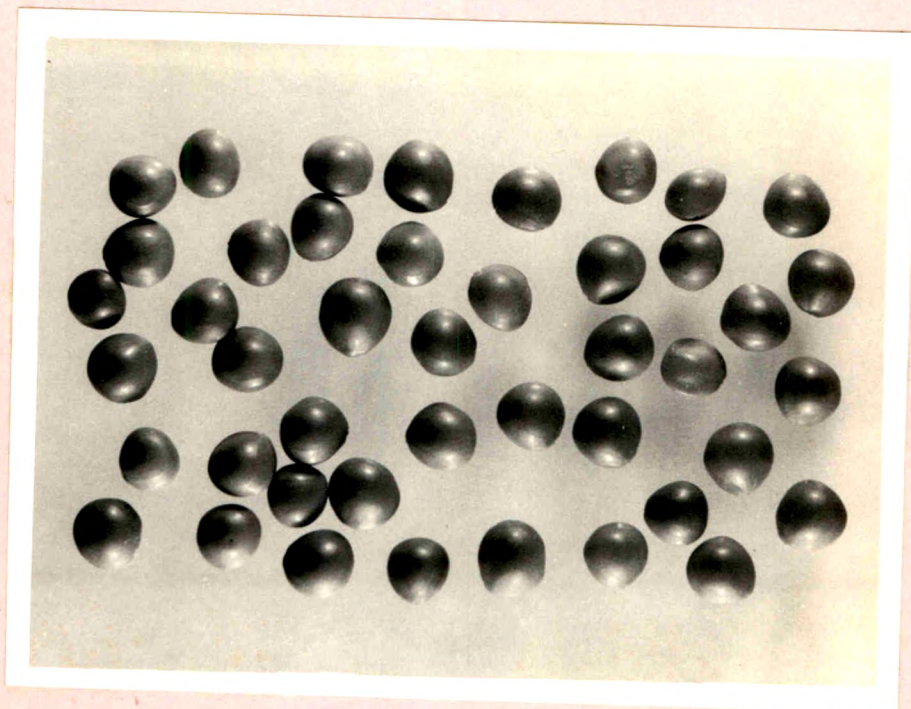


FIG. 1-2

MNR. BALASAHEB KHARDEKAR LIBRARY  
SHIVAJI UNIVERSITY, KOLHAPUR



of the leaves<sup>2</sup> is used against rheumatism and gout. It is regarded as useful in haemorrhage from the bowels and haematuria. It is also considered astringent and tonic in atonic diarrhoea and dysentery.

A survey of literature shows that Mudbidri and his coworkers<sup>3</sup> have carried out chemical analysis of the oil extracted from the seeds of A. pavonina. The seeds yield 14% of a fixed oil. The analysis of the oil is recorded as  $d^{15.5^{\circ}}$ , 0.9168;  $\eta^{60^{\circ}}$ , 1.4570; saponification value, 181.4; iodine value, 87.9; acid value, 0.56 and lignoceric acid, 25%.

As it can be seen, the findings reported so far on the seeds of the plant are of a very preliminary nature. No trial has been done, earlier, to find out carbohydrates from the seeds of the plant. This has prompted the present investigator to undertake a systematic chemical analysis of water soluble polysaccharide occurring in the seeds of A. pavonina in order to collect and disseminate information about its structure.