ABSTRACT

The present work is confined to the study of two species, one is *Murraya exotica* of family Rutaceae, and other is *Capparis aphylla*, which is an important member of family Cappareace.

Murraya exotica L. (*Murraya paniculata*) is basically planted in gardens as an ornamental tree due to its white fragrant flowers. This plant has also gained important pharmacologically. It is aromatic, refrigerant, and beneficial in rheumatic fever, cough, giddiness etc.

The second plant *Capparis aphylla* (*Capparis decidua*) is a straggling glabrous shrub, mostly present in deserted area. This plant is regarded as acrid, stimulant and laxative. Its root bark is astringent and is used for the treatment of many diseases and fruit and unexpanded flower-buds are edible either raw or pickled.

The research work has been divided into two sections. Section I includes the study on *Murraya exotica* while the section II deals with *Capparis aphylla*. The experimental work of each specie further has two parts. Part (A) includes the physicochemical analysis of the wax obtained from the respected plant. While part (B) deals with the phytochemical screening and extraction of alkaloids from the given specie.

The physicochemical analysis of both waxes obtained from *Murraya exotica* (leaves) and *Capparis aphylla* (shoots) showed that the melting points as found were very similar as described in literature, also the low iodine values and the high saponification values indicated the presence of minute quantity of unsaturated fattyacids and large amount of saturated fattyacids in them. The different chemical tests have been employed for the phytochemical screening of both species to identify the different types of components present in them. The results showed the presence of tannins, saponins and alkaloids in *M. exotica* while anthraquinones and steroids are found to be absent. In case of *C. aphylla* only saponins and alkaloids gave the positive test.

For the extraction of alkaloids different extraction processes were used for *M. exotica*. The first method consists of extraction in methanol. The column chromatography was carried out to separate the components in fractions. Three fractions were obtained by observing under UV lamp (366 nm). The F2 when applied to TLC (25% methanol and 75% hexane) resulted in six spots. The three of them having Rf 0.3, 0.5, 0.6 may be identified as the alkaloidal components because they gave blue fluorescence under UV (366 nm).

The second extraction was carried out in benzene. The fraction obtained after column chromatography gave four spots, the one having Rf 0.7 gave blue fluorescence may be identified as an alkaloid. UV and IR spectrum of this fraction correlates with the reported one. So this must be the exozoline.

In case of C. aphylla the extraction was carried out in methanol. The column chromatography resulted in two fractions with 70% hexane and 30% methanol. The F2 showed single spot having Rf=0.5, gave blue fluorescence under UV (366 nm) is identified as alkaloid.