E2-15: Screening of *Hibiscus abelmoschus* for chemical constituents and antimicrobial activities

T A S Perera[1], L S R Arambewela[1], R L C Wijesundera[2]
([1]*Ceylon Institute of Scientific & Industrial Research, Colombo 7,*[2]*Dept of Botany, Univ of Colombo, Colombo 3*)

The seeds of *Hibiscus abelmoschus* (*Sinh.* Kapukinissa, Family Malvaceae) are used as carminative, stomachic, antispasmodic, stimulants and as treatment for hysteria and other nervous troubles. The seeds have a peculiar and lasting odour reminiscent of musk.

The chemical constituents of the essential oils of *H. abelmoschus* grown in other countries have been reported.

The water distillation of the seeds and leaves of local *H. abelmoschus* yielded 0.12 and 0.034% of oil respectively. The GC-MS of the seed oil indicated the presence of decyl acetate (5%), dodecyl acetate, farnesene, farnesyl acetate (55%), ambrettolide (11%), and also 2,3 dihydro farnesol (previously unreported in the oil).

The antibacterial activities of the seed oil studied against *Staphylococcus aureus, Escherichia coli, Pseudomonas aeruginosa* using gentamicin as the standard, indicated that the oil was active against *S. aureus* and *E. coli.* (MIC value 35 and 70 mg/ml resp.).

The antifungal studies of the seed oil (8 mg.) were conducted using *Alternaria* sp., *Colletotrichum* sp. and *Fusarium oxysporum.* A weak activity against *Colletotrichum* was observed.

Ambrettolide is responsible for the musk like odour of the oil and is used in high grade perfumes. Decyl acetate is a modifier of citrus scents.

This is the first report of antimicrobial activities of the oil which may be responsible for the therapeutic value of the seeds.