

NOTE

In vitro Antimicrobial Studies of the Essential Oil of *Vitis adnata*

MAHESH SRIVASTAVA

Department of Chemistry, Lajpat Rai (P.G.) College
Sahibabad-201 005, India

Investigations of the antimicrobial therapeutic behaviour of phytochemicals have been the interest of scientists in recent years and scores of phytochemicals have shown promising results.

*Vitis adnata*¹⁻³ belongs to the family leguminosae and occurs throughout India. Ayurvedic system emphasises its medical value as blood purifier, diuretic and sends secretion healthy. A thorough literature search reveals that *V. adnata* contains an essential oil but no antimicrobial investigation has yet been carried out on this plant. It was therefore considered worth carrying out investigations on the antimicrobial behaviour of its essential oil.

Essential oil of *V. adnata* was extracted by the method of steam distillation and antimicrobial activity was studied on the following organisms, e.g.

Bacterial: (1) *Salmonella stanely* (2) *Escherichia coli* (3) *Streptococcus agalactiae* (4) *Salmonella richmond* (5) *Klebsiella pneumoniae* (6) *Salmonella newpors* (7) *Proteus vulgaris* (8) *Bacillus substalis* (9) *Pseudomonas aeruginosa* (10) *Staphylococcus qureus* (11) *Bacillus anthraces* (12) *Salmonella pullorum*

Fungi: (1) *Aspergillus fumigatus* (2) *Aspergillus favours* (3) *Fusarium sp.* (4) *Penicillium digitatus* (5) *Aspergillus niger* (6) *Rhizophus stolonifera*

For the determination of antimicrobial activity inoculum was prepared from 'Oxide Nutrient' by adding 2% agar whereas 'Standard Broth' with 2% agar was used for antifungal activity.

Diffusion Disc method was employed⁴ for antimicrobial activity in which 6 mm incubated discs (for 30 h) were dipped in essential oil. 72 h was the incubation time for fungi. After the repetition of the whole process twice the average zones of inhibition were recorded.

The essential oil was found to be highly active in inhibiting the growth of *Salmonella pullorum* (zone of inhibition 25 mm).

REFERENCES

1. A Dictionary of the Economic Products of India, Government Press, Calcutta, VI (4), p. 257 (1958).
2. K.R. Kirtikar, and B.D. Basu, Indian Medicinal Plants, 2nd Ed., Allahabad, Vol. I, pp. 602-603 (1953).
3. M. Srivastava, *Asian J. Chem.* **7**, 662 (1995).
4. C. Jasfer, Maruzzella and P.A. Henry, *J. Am. Pharm. Assoc.*, **47**, 471 (1958).