

NOTES

Screening of Antibacterial Activity of Various Extractives of Seeds of *Cassia Tora* and *Alternanthera Sessilis*.

B.R. SAHU† and AJITA CHAKRABARTY*

*Department of Chemistry,**Government P.G. Girls College, Bilaspur-495 001, India.*

Various seeds extracts of *Cassia tora* and herb extracts of *Alternanthera sessilis* were tested against some human and plant pathogenic bacteria, employing Cup and Wells method. The study revealed that seeds extracts of *Cassia tora* in alcohol had good inhibition effect against all the tested organism whereas the herb extracts of *Alternanthera Sessilis* in petroleum ether and benzene inhibited the growth of all bacteria.

Plant extract may inhibit or accelerate the significant growth of microbes and several plants¹⁻⁵ are known to have antimicrobial activity. The present investigations have therefore be carried out to examine the antibacterial activity of successive seeds extracts of *Cassia tora* and herb extract of *Alternanthera Sessilis* against some human and plant pathogenic bacteria.

Seeds of *Cassia tora* and the herb of *Alternanthera sessilis* were obtained from standard nurseries and authenticated by the reputed Botanist. The seeds and herb were extracted with pet. ether, benzene, diethyl ether, chloroform, acetone and alcohol. Powered seeds and herb were extracted with the above solvents (2 litres) respectively in soxhlet apparatus for about 30 h.

The solvents were then evaporated under reduced pressure and residues were used to study their antibacterial activities. Residues were again taken in the respective solvents (400 mg/ml). Different human and plant pathogenic bacteria were obtained from mycopathological Laboratories. These organisms were grown on nutrient agar medium in petridishes. Homogenous suspension of bacteria in gels were made and poured in sterile petridishes. The cups/wells were made in agar plates as reported by Vincent and Vincent⁶ and 0.5 ml of sample extract was dispensed in the cups. In the same way controls were run with 500 ppm solution of acromycin and streptomycin against gram positive and gram negative bacteria respectively. The plates were then inhibited at $30 \pm 1^\circ\text{C}$ for 15 h. Inhibition zones were measured. The experiment was run in triplicate and the data were recorded as shown in Tables 1 and 2.

The efficacy of seeds extracts has most often been shown to be due to an active principal contained therein. Seeds extracts of *Cassia tora* in alcohol showed good

†Department of Chemistry, CMD P.G. College, Bilaspur (MP), India.

inhibition against all the tested organisms. Seeds extracts of *Cassia tora* in alcohol showed almost equal inhibitory zones than control against *B. anthracis*².

TABLE 1
ANTIBACTERIAL ACTIVITY OF SEEDS OF *C. TORA** (10 mm)

Organism	Seeds extracts in different solvents						Control 500 ppm
	Pet. ether	Benzene	Sol. ether	Chloroform	Acetone	Alcohol	
<i>Bacillus anthracis</i> (+)	30	16	20	22	17	38	40
<i>B. pumilis</i> (+)	15	R	R	R	14	19	35
<i>Saomonella</i> <i>paratyphi</i> (-) 1st strain	R	R	15	16	10	28	30
<i>S. paratyphi</i> 2nd strain	12	R	14	18	R	20	20
<i>Staphylococcus</i> <i>albus</i> (+)	15	R	R	26	R	15	20
<i>X. compestris</i> (-) R	R	R	R	R	R	17	26
<i>X. malvaearum</i> (-) 1st strain	R	R	R	R	R	12	28
<i>X. malvoearum</i> (+) 2nd strain	14	R	R	13	16	21	28

*Diameter of growth of inhibition (mm) including the diameter well (10 mm).

R = Resistant—which indicate that no inhibition zones were observed.

TABLE-2
ANTIBACTERIAL ACTIVITY OF THE HERB OF *A. SESSILIS**

Organism	Herb extracts in different solvents						Control 500 pm
	Pet. ether	Benzene	Sol. ether	Chloroform	Acetone	Alcohol	
<i>Bacillus anthracis</i> (+)	20	14	11	14	17	19	38
<i>Bacillus pumilis</i> (+)	18	18	13	R	R	R	30
<i>Salmonella paratyphi</i> (-) 1st strain	16	20	R	R	R	R	28
<i>S. paratyphi</i> 2nd strain	24	16	R	12	R	R	28
<i>Staphylococcus</i> <i>albus</i> (+)	14	28	15	11	R	13	22
<i>X. compestris</i> (-) R	18	18	R	R	16	12	26
<i>X. malvaearum</i> (-) 1st strain	19	15	18	R	R	R	28
<i>X. malvaearum</i> (+) 2nd strain	18	12	16	R	R	R	28

*Diameter of growth inhibition (mm) including the diameter of well (10 mm).

R = Resistant—which indicate that no inhibition zones were observed.

Seeds extracts of *Cassia tora* in alcohol showed equal dimension of inhibitory zones as regarded in control against *S. paratyphi* (-) (1st strain). Herbs extracts of *Alternanthera sessilis* in petroleum ether and benzene showed good inhibitory zones against all the tested organism herb extracts of *Alternanthera sessilis* in chloroform showed better inhibitory zones than control against *S. albus* (+). Seed extracts of *Cassia tora* in chloroform and acetone showed lower inhibition value, than control against *B. anthracis* (+). *B. pumilis* (+) *S. paratyphi* (-) (1st strain) and *X. malvacearum* (+) (2nd strain) seeds extracts of *Alternanthera sessilis* in solvent ether, chloroform and alcohol had showed lower inhibition value than control against *B. anthracis* (+) and *S. albus* (+). No inhibitory zones were observed against pure solvents.

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