

## Removal of Cr (VI) ions from aqueous solutions by cauliflower stalks and maize leaves powder

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In this study, simple, nontoxic, eco-friendly and inexpensive adsorbents were investigated, namely cauliflower stalks and maize leaves powder for removal of Cr (VI) from aqueous solutions. Adsorption of Cr (VI) was studied with respect to pH, temperature, biomass, agitation speed, contact time and initial concentration of chromium (VI) ions. Maximum biosorption was observed at pH 2.0 and at a temperature of 37°C. Increase in biomass was resulted in a decreased metal uptake. With an agitation speed of 130 rpm, equilibrium was attained within 2 h. Under optimum conditions, biosorption was enhanced with increasing concentrations of Cr (VI) ions. Maize leaves and cauliflower stalk powder displayed a specific uptake of Cr (VI) ions of  $48.12 \pm 1.2$   $\text{mgg}^{-1}$  and  $43.05 \pm 0.22$   $\text{mgg}^{-1}$  at 955 ppm, respectively at a concentration of 1000 ppm respectively. The adsorption data obtained also fitted well to the Freundlich isotherm. Kinetics data was also studied by using both adsorbents and data was followed by Pseudo-second order.

### Biography

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## Isolation of oral bacterial flora from a Colubrid snake *Lycodon aulicus* (Colubridae) and their susceptibility to antibiotics

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In recent time we have witnessed the hazardous effect of snakebites on human body. Studies have observed that it is not only venom that is affecting a human body but also many other deadly microorganisms like bacteria have dangerous effect on human body which is present in the buccal cavity of snakes.

In this light the present study aims to isolate and identify the bacteria present in the oral cavity of snakes and to test their susceptibility towards antibiotics.

Two male species of *Lycodon aulicus* was collected from Bhubaneswar, Orissa, India. Nine strains were isolated by using swabs in six different growth media i.e. Centrimide, EMB, TCBS, XLD, Urea agar and Nutrient Agar. After 48 hrs of incubation in 37°C, each type of micro organisms were isolated and subjected to different biochemical tests. Mainly two strains were identified and others are still under experiments. Then these strains are named as per the snake's numbers i.e. 54 and 55.

These two strains showed better growth on TCBS medium, so named as 54T1 and 55T1. As they gave better result on TCBS, they are identified as *Vibrio*. Then these are subjected to further tests i.e. Morphological study and Biochemical test. On the basis of these tests the two strains 54T1 and 55T1 are identified as *V.cholorae* and *V. parahaemolyticus* respectively.

In our study, the antibiogram showed that both the isolates were sensitive to commonly tested antibiotics such as Gentamicin, Gatifloxacin, and ciprofloxacin. However strain 54T1 was resistant to most commonly used antibiotics vis. Ciprofloxacin, Vancomycin, Cephalexin, Cloxacillin and Tetracycline.

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