

Antibacterial Effect of Roselle (*Hibiscus Sabdariffa* L.) and Its Relation to PH

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The extracts of several thousand plant species have been tested for antibacterial activity and, depending upon the plants surveyed and the test organisms used, from 30 to 50% of the extracts showed some antimicrobial activity (Banwart, 1979).

Hibiscus sabdariffa L. a member of the family *Malvaceae* (also known as Roselle calyces or karkade is a tropical plant which is extensively used as a cold and warm beverage in Egypt and Sudan. Caceres *et al.* (1987) showed that the aqueous extract of *Hibiscus sabdariffa* (calyces) had diuretic activity and its ethanolic extract had great effect on urinary excretion of uric acid.

the antibacterial and antifungal activities of *H. sabdariffa* have been studied by Shihata *et al.* (1983). Alcoholic extract of the flowers of *H. sabdariffa* has been shown to have antibacterial and antifungal activities (Shihata *et al.*, 1983). Al-Kahtani and Hassan (1990) reported that spray-dried powders extracted from calyces of *H. sabdariffa* were microbe-free. The antimicrobial activity of the plant could be attributed to its contents of cyanidin and other flavanols and/or its contents of organic acids and pigments (Marwan and Nagel, 1986a; Marwan and Nagel, 1986b). Extract of *H. sabdariffa* calyces has citric, malic; oxalic and 3-indolyl acetic acids (khafaga and koch, 1980; Ibrahim *et al.*, 1971). It also contains anthocyanin pigments (Charles and Niviere, 1897; Hartman, 1959).

The present work carried out to study the concentrations of spray-dried Roselle extract which inhibit the growth of some bacteria. The effect of low PH of *H. sabdariffa* L. on antimicrobial activity was also studied.