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Evaluation of *In-vitro* Antibacterial Potentialities Against Some Pathogenic Bacteria and Bioprospecting of *Cleistanthus Collinus* (Roxb.) Benth.ex Hook.f.

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ABSTRACT *Cleistanthus collinus* (Roxb.) Benth.ex Hook. f., a member of the Euphorbiaceae family, exhibits significant therapeutic potential in the field of phytochemical research, notwithstanding its prevalent use in suicidal contexts. The primary objective of this research is to systematically analyze the phytochemical composition of various solvent extracts including petroleum ether, chloroform, ethyl acetate, methanol, and water obtained from diverse plant parts, namely leaves, bark, and fruits of *C. collinus*. Subsequently, the obtained extracts underwent evaluation for their antibacterial efficacy against a selected panel of Gram-positive bacteria, including *Bacillus subtilis*, *Micrococcus luteus*, *Staphylococcus aureus*, and *Staphylococcus epidermidis*, as well as Gram-negative bacteria, comprising *Escherichia coli*, *Salmonella paratyphi*, *Shigella dysenteriae*, and *Vibrio cholera*. Notably, the methanol and ethyl acetate extracts demonstrate pronounced antibacterial activity, surpassing that observed with chloroform extracts. The current study discovered that *C. collinus* extracts contained a range of secondary metabolites and it has the potential to be utilized in the production of pharmaceutical drugs, notably antibacterial ones.