

ABSTRACT

The two plants *Sapindus trifoliatus* L. and *Sapindus mukorossi* Gaertn. were studied for their ethanopharmacological activities. The maceration technique was used to get the crude extracts in polar and non-polar solvents (water, ethanol, chloroform and *n*-hexane). The % yield of the extracts varied from 0.11- 6.08. The qualitative phytochemical determination of *Sapindus trifoliatus* and *Sapindus mukorossi* exhibited the presence of terpenoids, reducing sugars, flavonoids and alkaloids with the saponins are in larger quantity.

The quantitative phytochemical exploration of *Sapindus trifoliatus* and *Sapindus mukorossi* exhibited highest phenolic content ranged from 230- 2195 GAE $\mu\text{g/mL}$. The flavonoid content was also highest, ranging from 350- 3123.6 RE $\mu\text{g/mL}$.

The DPPH value varied from 12.44- 105.7. The ABTS assay was explored and ranged from 9.1 – 17.1 $\mu\text{g/mL}$, as ethanol and chloroform extracts had higher value. Metal chelating potential was estimated to explore the % inhibition of the compounds present in the macerates. The ethanolic extracts of the bark showed the highest value to bind the iron components.

The antibacterial potential showed good zone of inhibition, especially the ethanol and chloroform extracts, while the *n*-hexane and aqueous extracts exhibited smaller zone of inhibition. The most pronounced results were exhibited by *Staphylococcus aureus* and *Escheria coli* ranged from 70-32 mm respectively. As a whole the leaf and stem extracts showed highest zone of inhibition.

The antifungal activity of *Sapindus trifoliatus* and *Sapindus mukorossi* against the *Rhizopus stolonifer* and *Trichoderma viridae* showed the zones of inhibition in the range of 36- 19 mm respectively. The ethanolic extracts exhibited largest zone of inhibition. The leaf extracts in ethanol and chloroform showed good potential against the pathogens as compared with the *n*-hexane extracts.