Chapter-7

CONCLUSION
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(1) Preliminary phytochemical analysis of *Pajanelia longifolia* (Willd.) K. Schuman bark ethyl acetate extract revealed the presence of tannin and acetone and methanol bark extracts revealed the presence of alkaloids, tannin, reducing sugar, flavonoids and steroids.

(2) Toxicity study of *Pajanelia longifolia* (Willd.) K. Schuman bark acetone and methanol crude extracts at different dose concentration manner did not exhibited any mortality or any visible behavioural changes from lower dose (200 mg/kg b.w.po.) to higher dose levels (2000 mg/kg b.w.). But cyst like structure was found in higher dose levels (1600 and 2000 mg/kg b.w.o., respectively) of acetone and methanol extracts.

(4) *In vivo* bioactivity study of *Pajanelia longifolia* (Willd.) K. Schuman acetone and methanol bark extracts at dose dependent manner exhibited good protective efficacy in serum enzyme and bilirubin levels as well as in antioxidant enzymatic and non-enzymatic levels of CCl₄ intoxicated hepatotoxic mice. In case of *Pajanelia longifolia* (Willd.) K. Schuman crude extracts, the 200 mg/kg dose of acetone bark extracts exhibited best level of protective activity and 300 mg/kg dose of methanol bark extract exhibited least level of protective activity in serum enzymes, bilirubin and antioxidant enzymatic and non enzymatic levels. Histopathological study was also supported the biochemical findings.

(5) From acetone bark extract one new compound was isolated. From spectroscopic data interpretation the compound was identified as 2,3,6-trimethyloct-6-enal. The compound possesses skeletal similarity with citronellal.
(6) 100 mg/kg b.w.p.o. dose of 2,3,6-trimethyloct-6-enal exhibited maximum level of hepatoprotective and antioxidant activity compared to other two doses (200 mg/kg and 300 mg/kg).

(7) Bioactivity results offered by 2,3,6-trimethyloct-6-enal were also supported by histopathological observations.

(8) Overall data from bioactivity analysis of this plant indicated that *Pajanelia longifolia* (Willd.) K. Schuman bark extract at higher dose levels (1600-2000 mg/kg b.w.p.o.) performed as a hepatotoxicant and at lower dose levels (100-300 mg/kg b.w.p.o.) performed as a hepatoprotective agent.

(9) The plant therefore, can be considered as an effective hepatoprotective and antioxidant agent as it significantly ameliorates the damage caused by CCl₄ to hepatic function.