CHAPTER 6

SUMMARY AND CONCLUSION
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The methanolic extract of *Avicennia alba* possesses antifertility, analgesic, antipyretic, antimicrobial and antioxidant activity. This justifies the folklore claims on *Avicennia alba* Blume. The antifertility activity is dose dependent and at a dose of 400 mg/kg showed 85.77% anti-implantation activity and 97.09% antifertility activity. Estrogenic activity is responsible for its anti-implantation activity. Presence of phytoestrogens like stigmasterol and phytol etc may be attributed to its female antifertility effect.

Methanolic extract showed a significant increase in basal reaction time in radiant heat and tail immersion methods. The extract (100 and 200 mg/kg) showed a significant inhibition of elevated body temperature when compared to control. The analgesic and antipyretic activity may be attributed to flavonoids present in the plant extract.

There was significant ($p < 0.05$) skeletal muscle relaxant activity shown by methanolic extract at 200 mg/kg as compared to control group of animals. The skeletal muscle relaxant activity of the plant extract might be attributed to presence of Hexadecanoic acid and Octadecatrienoic acid.

The methanolic extract and its various fractions exhibited anti bacterial activity against *Enterococcus faecalis*, *Staphylococcus aureus*, *Staphylococcus saprophyticus*, *Streptococcus mutans*, *Acinetobacter baumannii*, *Citrobacter freundii*, *Enterobacter aerogenes* and *Escherichia coli*. The methanolic extract and its n-hexane fraction had 0.29 mg/ml as the lowest MIC value and 0.67 mg/ml as the lowest MBC value against *Staphylococcus aureus*. The anti-bacterial activity may be attributed to hexadecanoic acid present in the plant extract.
The methanolic extract of *Avicennia alba* showed the anthelmintic effect causing death of the worm at 10 mg/ml concentration. The anthelmintic activity may be attributed to presence of 9,12,15-Octadecatrienoic acid.

The total phenolic and flavonoid content of methanolic exteact of *Avicennia alba* was estimated as 185 mg Gallic acid equivalent/g and 92 mg quercetin equivalent/g respectively. The antioxidant activity may be attributed to its flavonoid and phenolic content.

A novel flavonoid (2-[3\(^\prime\)-(3\(^\prime\)\(\prime\)-(hydroxymethyl)oxiran-2\(^\prime\)-yl)-2\(^\prime\)-methoxy-4\(^\prime\)-(methoxymethyl)phenyl]-4H-chromen-4-one. ) is isolated from the n-hexane-ethyl acetate (7:3) eluant of methanolic extract of *Avicennia alba* Blume.