James JM, Neethu PC, Antony T. Morpho-Aaatomical, fluorescence, phytochemical and antibacterial studies of *Phyllanthus myrtifolius* Moon. and *Phyllanthus reticulatus* Poir. of Kerala. Plant Science Today. 2020;7(2):219-226. https://doi.org/10.14719/pst.2020.7.2.744

Supplementary Tables

Table 1. Powder of *Phyllanthus myrtifolius* treated with different reagents

Sl No	*P. myrtifolius*	Leaf (Day light)	Stem (Day light)	Root (Day light)
1	Powder as such	Olive green	Creamy brown	Soil colour
2	Powder +conc HNO_3	Light yellow	Orange	Yellow
3	Powder + conc H_2SO_4	Coffee colour	Coffee colour	Coffee colour
4	Powder + conc HCl	Olive green	Reddish brown	Reddish brown
5	Powder + Glacial acetic acid	Yellow brown	Dark green	Soil colour
6	Powder + 1N NaOH	Yellowish black	Reddish brown	Brown
7	Powder + 5% KOH	Dark green	Yellowish brown	Brownish green
8	Powder + Iodine	Yellowish green	Yellowish brown	Pale green

Table 2. Powder of *Phyllanthus reticulatus* treated with different reagents

Sl No	*P. reticulatus*	Leaf (Day light)	Stem (Day light)	Root (Day light)
1	Powder as such	Green	Olive green	Brown
2	Powder +conc HNO_3	Yellow	Yellow	Deep yellow
3	Powder + conc H_2SO_4	Coffee colour	Coffee colour	Coffee colour
4	Powder + conc HCl	Olive green	Pale green	Dark brown
5	Powder + Glacial acetic acid	Black	Brown	Reddish brown
6	Powder + 1N NaOH	Yellowish green	Yellowish brown	Yellowish black
7	Powder + 5% KOH	Pale green	Pale green	Brown
8	Powder + Iodine	Brown	Pale yellow	Dark brown

Table 3. Phytochemical analysis of *Phyllanthus myrtifolius*

Compounds	Tests	Distilled water	Ethanol	Acetone
Alkaloids	Hager's test	–	–	–
	Mayer's test	–	–	-
	Wagner's test	–	+	+
Carbohydrates	Benedict's test	+	+	+
Saponins	Froth test	+	+	–
Flavanoids	Alkaline reagent test	+	+	+
	Lead acetate test	+	+	+
Proteins	Xanthoprotein test	–	–	–
	Biuret test	–	–	–
	Millon's test	–	–	–
Tannins	Ferric chloride test	+	+	+
	Lead acetate test	+	+	+
Phenols	Lead Acetate test	+	+	+
Anthocyanins	Sulphuric acid test	+	–	–
Diterpenes	Copper acetate test	–	–	+
Phytosterols	Salkowski 's test	+	+	+

Table 4. Phytochemical analysis of *Phyllanthus reticulatus*

Compounds	Tests	Distilled water	Ethanol	Acetone
Alkaloids	Hager's test	–	–	–
	Mayer's test	–	–	–
	Wagner's test	–	–	–
Carbohydrate	Benedict's test	–	+	–
Saponin	Froth test	–	+	+
Flavanoids	Alkaline reagent test	+	–	–
	Lead acetate test	–	–	–
Protein	Xanthoprotein test	–	–	–
	Biuret test	–	–	–
	Millon's test	–	–	–
Tannin	Ferric chloride test	+	+	+
	Lead acetate test	–	+	+
Phenol	Lead acetate test	+	+	+
Anthocyanin	Sulphuric acid test	+	–	–
Diterpenes	Copper acetate test	+	–	+
Phytosterols	Salkowski's test	+	–	+

Table 5. Antibacterial effects of *Phyllanthus myrtifolius* extract in Ethanol

SI. No	Microbes selected	Zone of inhibition (mm)				
		Leaf	Stem	Root	Positive control	Negative control
1	*E. coli*	15	8	0	27	0
2	*Pseudomonas*	18	7	0	23	0
3	*Proteus vulgaris*	17	11	5	15	5
4	*Staphylococcus aureus*	20	7	0	30	0

Table 6. Antibacterial effects of *Phyllanthus myrtifolius* extract in Acetone

SI. No	Microbes selected	Zone of inhibition (mm)				
		Leaf	Stem	Root	Positive control	Negative control
1	*E. coli*	12	7	5	15	8
2	*Pseudomonas*	18	7	16	27	7
3	*Proteus vulgaris*	16	6	15	25	0
4	*Staphylococcus aureus*	12	0	0	28	7

Table 7. Antibacterial effects of *Phyllanthus myrtifolius* extract in distilled water

SI. No	Microbes selected	Zone of inhibition (mm)				
		Leaf	Stem	Root	Positive control	Negative control
1	*E. coli*	6	0	0	4	5
2	*Pseudomonas*	6	0	0	6	5
3	*Proteus vulgaris*	9	7	0	6	5
4	*Staphylococcus aureus*	11	0	0	6	5

Table 8. Antibacterial effects of *Phyllanthus reticulatus* extract in ethanol

SI. No	Microbes selected	Zone of inhibition (mm)				
		Leaf	Stem	Root	Positive control	Negative control
1	*E. coli*	0	5	0	7	7
2	*Pseudomonas*	3	4	4	5	5
3	*Proteus vulgaris*	0	4	5	5	5
4	*Staphylococcus aureus*	7	0	0	6	5

Table 9. Antibacterial effects of *Phyllanthus reticulatus* extract in acetone

SI. No	Microbes selected	Zone of inhibition (mm)				
		Leaf	Stem	Root	Positive control	Negative control
1	*E. coli*	4	0	3	6	4
2	*Pseudomonas*	5	4	5	5	5
3	*Proteus vulgaris*	7	0	5	7	6
4	*Staphylococcus aureus*	3	0	4	7	6

Table 10. Antibacterial effects of *Phyllanthus reticulatus* extract in distilled water

SI. No	Microbes selected	Zone of inhibition (mm)				
		Leaf	Stem	Root	Positive control	Negative control
1	*E. coli*	6	6	0	25	0
2	*Pseudomonas*	7	8	10	20	6
3	*Proteus vulgaris*	7	8	13	29	0
4	*Staphylococcus aureus*	0	0	0	23	0

Supplementary Figures

Leaf and Stem

Root

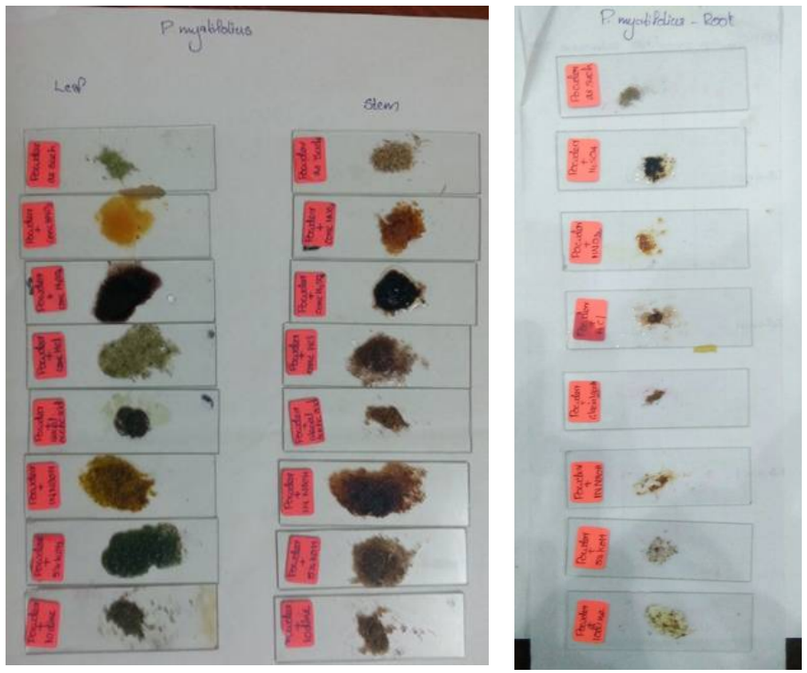


Fig.1. Powder of *Phyllanthus myrtifolius* treated with different reagents.

Leaf and Stem

Root

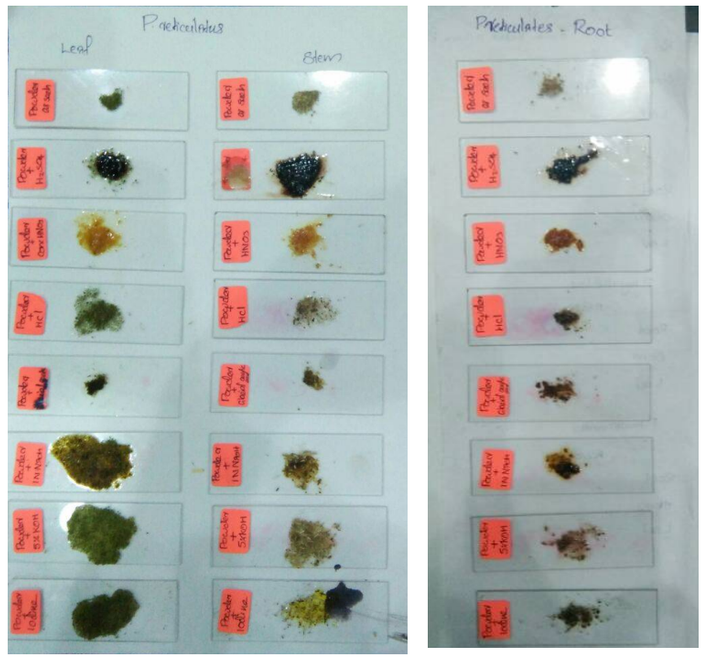


Fig. 2. Powder of *Phyllanthus reticulatus* treated with different reagents.

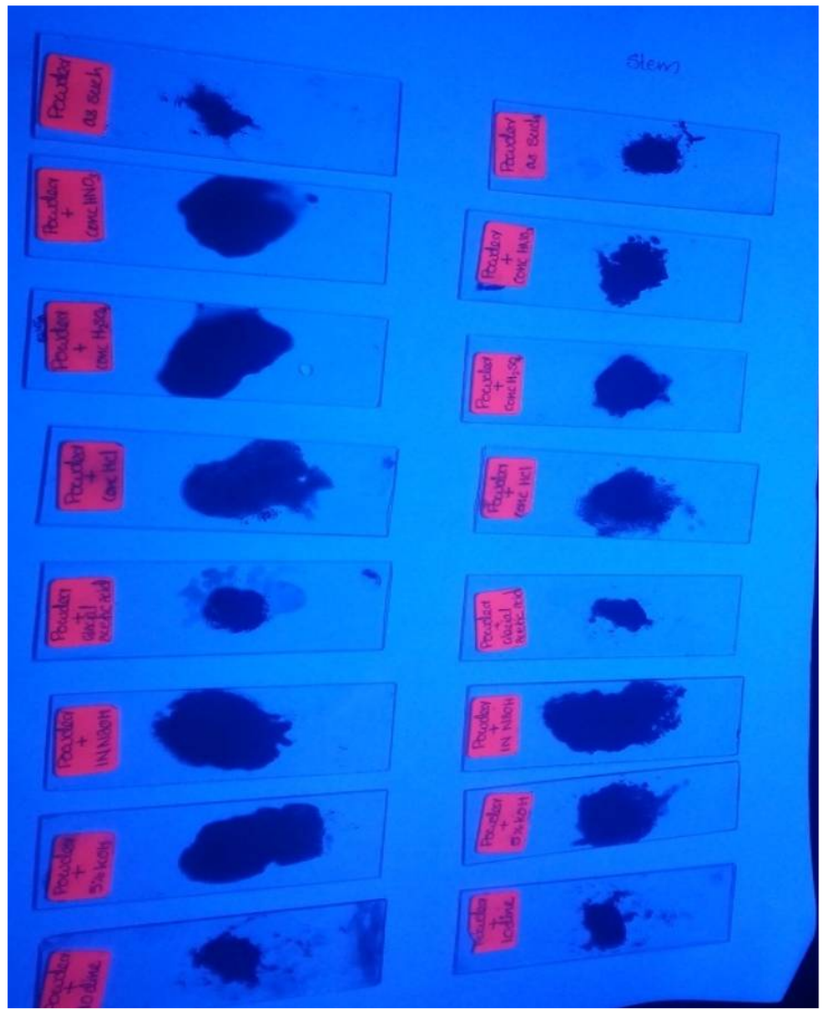


Fig. 3. Absence of fluorescence in all samples of *Phyllanthus* spp. when kept under UV Transilluminator.

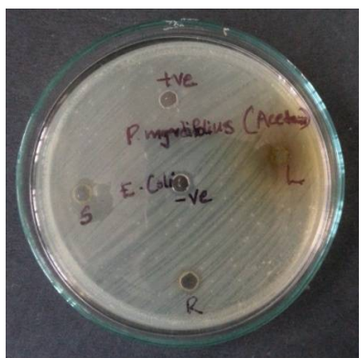
E. coli – Leaf extract-15 mm

P. aeruginosa – Leaf extract-18 mm

P. vulgaris – Leaf extract-17 mm

S. aureus – Leaf extract-20 mm

Fig. 4. Antibacterial effect of ethanol extract of *Phyllanthus myrtifolius* against 4 selected strains of bacteria.



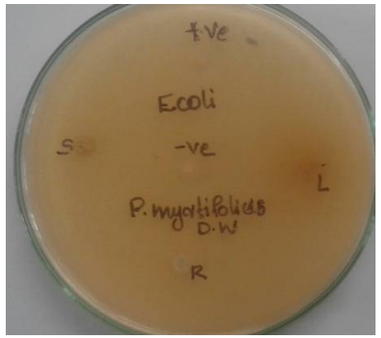
E. coli- Leaf extract – 12 mm, Stem extract- 7 mm, Root extract-5 mm

P. aeruginosa – Leaf extract- 18 mm, Stem extract- 7 mm, Root extract-16 mm

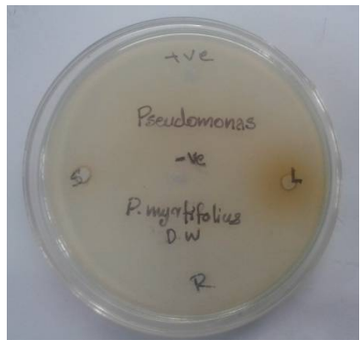
P. vulgaris – Leaf extract- 16 mm, Stem extract-6 mm, Root extract-16 mm

S. aureus – only leaf extract showed inhibition of 12 mm

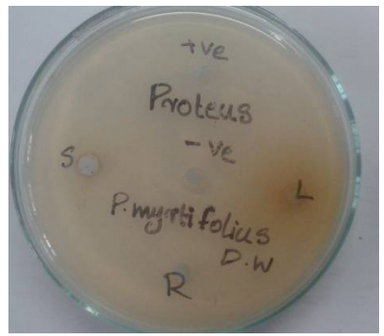
Fig. 5. Antibacterial effect of acetone extract of *Phyllanthus myrtifolius* against 4 selected strains of bacteria.



E. coli – Only leaf extract showed inhibition –6 mm



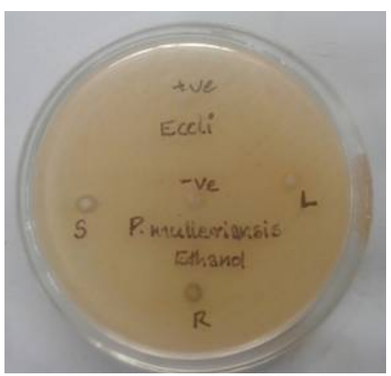
P. aeruginosa – Only leaf extract showed inhibition—6 mm



P. vulgaris – Leaf extract—9 mm, Stem extract—7 mm

S. aureus – Leaf extract-11 mm

Fig. 6. Antibacterial effect of distilled water extract of *Phyllanthus myrtifolius* against 4 selected strains of bacteria.



E. coli – Only stem extract produced inhibition-5 mm

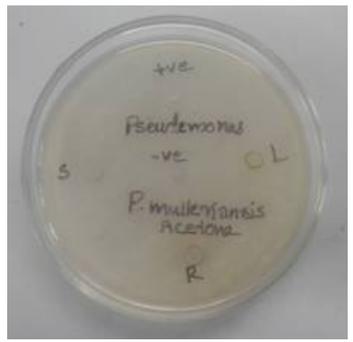
P. aeruginosa – Only stem extract produced inhibition-5 mm

P. vulgaris – Only root extract produced 5 mm inhibition zone

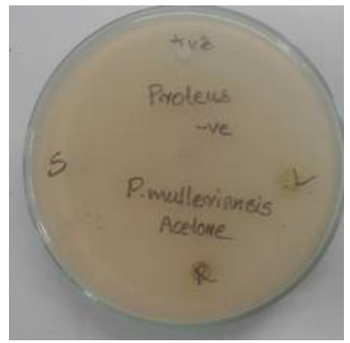
S. aureus – Leaf extract produced an inhibition of 7 mm

Fig. 7. Antibacterial effect of ethanol extract of *Phyllanthus reticulatus* against 4 selected strains of bacteria.

E. coli – Only leaf extract produced inhibition of 4 mm



P. aeruginosa – Both leaf and root extract produced 5 mm



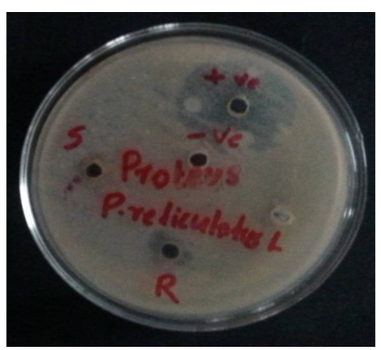
P. vulgaris – Only leaf extract produced inhibition zone of 7 mm

S. aureus – only root and leaf extract could bring inhibition zone of 4 mm & 3 mm

Fig. 8. Antibacterial effect of acetone extract of *Phyllanthus reticulatus* against 4 selected strains of bacteria.

E. coli – Both leaf and stem produced inhibition zone of 6 mm

P. aeruginosa – Root extract, stem extract and leaf extract produced inhibition zones of 10 mm, 8 mm, 7 mm



P. vulgaris – Root extract, stem extract and leaf extract produced inhibition zones of 13 mm, 8 mm, 7 mm

S. aureus – No inhibition was recorded by any of the extracts

Fig. 9. Antibacterial effect of distilled water extract of *Phyllanthus reticulatus* against 4 selected strains of bacteria.