



## Notes on *Knema retusa* (King.) Warb.

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*Knema retusa* (King.) Warb. is one of the 20 Malaysian species belonging to the family Myristicaceae. It is a distinct, endemic species, restricted to Malaysia Peninsular, Perak. This particular species is quite rare and relatively unexplored (De Wilde, 1979). This species is threatened and categorised in a vulnerable conservation status. The trees stand 6-18 m tall, with a dark brown, rough bark, with a red sap. The leaves are long and obtuse or retuse at the apex. Whitish scales persist beneath the leaf at a young age and turn greyish and glaucous as they age. The secondary nerves are 16-24 pairs, spaced with a 2-4 cm gap between each nerve. There are both male and female flowers belonging to this species, which are generally red or dark red inside (De Wilde, 1979). We observed the length and width of leaf blades of *Knema retusa* collected in the State of Perak in 2017. The average was taken from 20 leaves measuring the secondary nerves, length of leaf from blade to petiole, width of leaf and length of petiole. The averages calculated were 26, 63.82 cm, 24.24 cm and 3.18 cm respectively (Table 1). Microscopical analysis of leaf powders revealed the presence of stellate trichomes (Figure 1). At  $\times 10$  magnification, we observed vibrant red colours concentrated at the cluster of cells forming the red sap in bark powder (Figure 2). In bark powder, at  $\times 4$  magnification we observed secretory cells, ducts, and scalariform vessel (Figure 3).

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**Keywords:** *Knema retusa*; Trichomes; Leaves

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### DECLARATION OF CONFLICT OF INTEREST

No conflict of interest is associated with this research work.

### REFERENCES

- De Wilde, W.J.J.O., 1979. New account of the genus *Knema* (Myristicaceae). *Blumea*, 25, pp.321-478.  
Koster, J. and Baas, P., 1981. Comparative leaf anatomy. *Blumea*, 27, pp.115-173.



Table 1: Observation on the leaves of *Knema retusa* (King.) Warb.

Leaf Number	Number of secondary nerves	Length of plant blade and petiole / cm	Width of blade / cm	Length of petiole / cm
1	27	52.6	17.5	2.3
2	19	48.2	22.0	2.9
3	29	63.6	25.2	1.2
4	28	80.6	28.5	2.6
5	24	68.9	25.6	3.9
6	28	73.4	25.7	2.7
7	29	78.2	24.6	3.7
8	28	82.3	25.4	4.1
9	28	65.4	25.6	3.5
10	22	69.7	27.4	4.1
11	27	75.3	27.4	5.2
12	29	71.8	28.0	2.8
13	26	70.9	26.6	2.2
14	29	75.8	31.2	3.1
15	27	58.8	21.4	2.5
16	25	60.5	20.3	3.3
17	24	30.3	22.1	4.7
18	27	53.3	18.3	3.4
19	25	47.6	16.1	2.2
20	18	49.1	25.8	3.2
<b>AVERAGE</b>	26	63.82	24.24	3.18



Figure 1: × 10 magnification of leaf powder

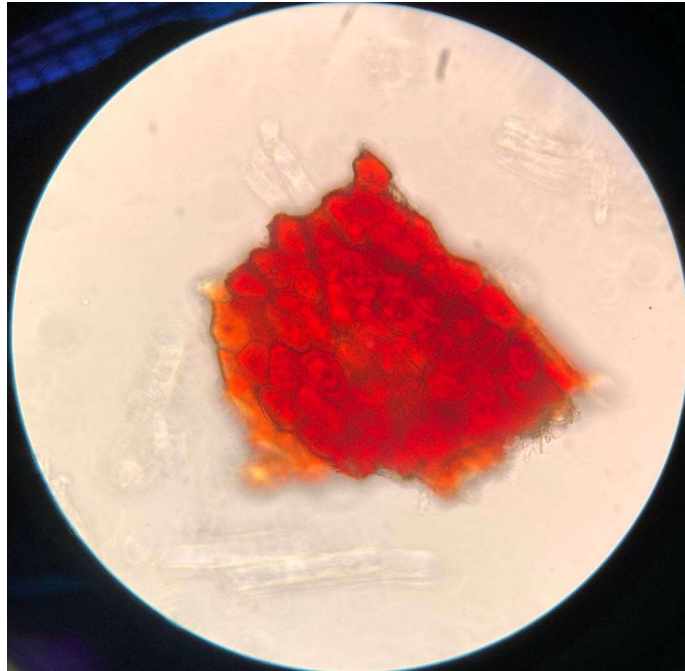


Figure 2:  $\times 10$  magnification of resin fragment in bark powder

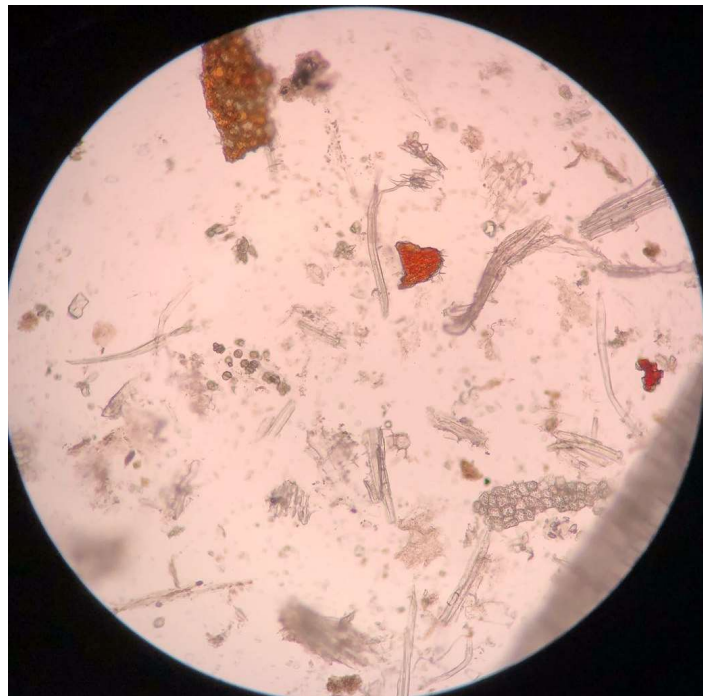


Figure 3:  $\times 4$  magnification of bark powder