

Evaluation of anti-inflammatory activity of ethanol extracts of leaves and bark of *Dialium ovoideum* Thwaites

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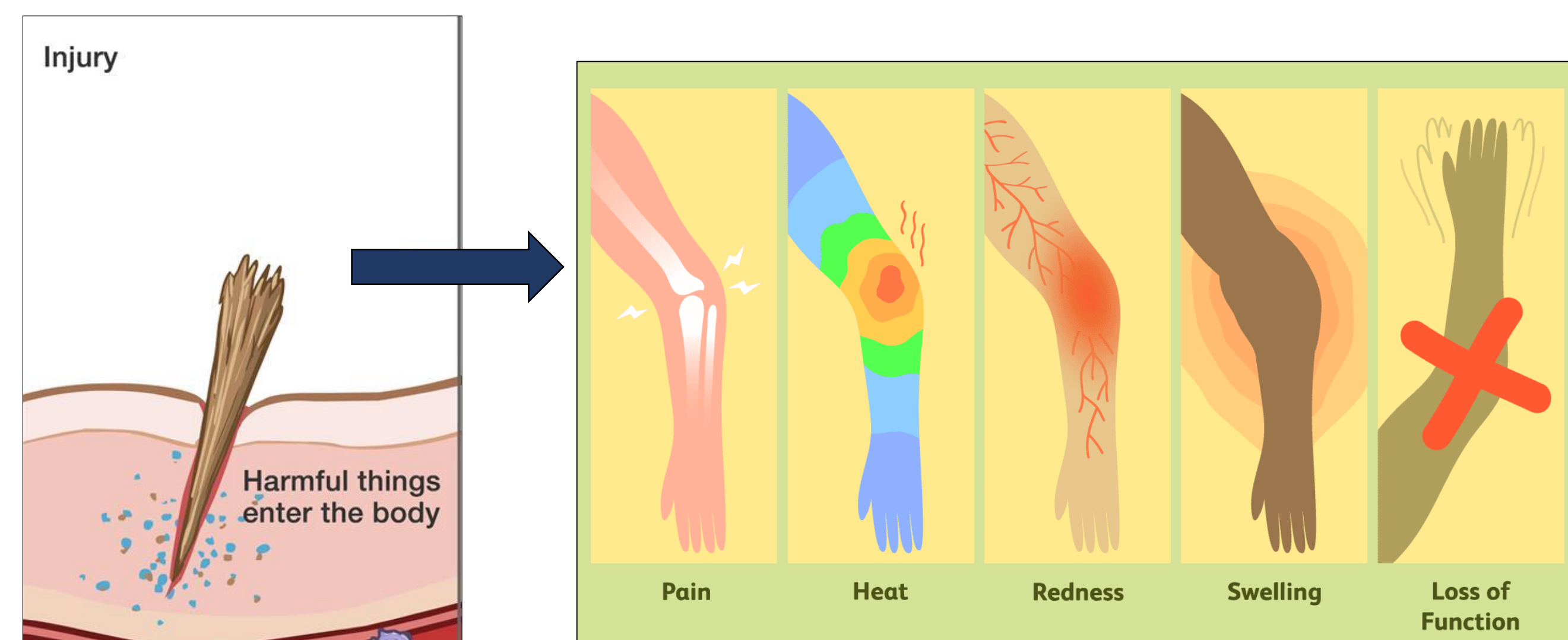
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Introduction

What is inflammation?



Sources: <https://www.verywellhealth.com>
<https://www.aboutkidshealth.com>

- The development of potent anti-inflammatory drugs from natural products with fewer side effects has gained more attention than synthetic drugs.

The medicinal plant used and why?



Dialium ovoideum Thwaites, an endemic plant in Sri Lanka, is used in traditional medicine to treat skin infections, clean wounds, and act as an antidote for snake bites.

Objective

To evaluate the anti-inflammatory effects of ethanol extracts of the leaves and bark of *D. ovoideum* Thwaites.

Methodology

Preparation of plant extracts

- Plant materials were cleaned, washed, shade-dried and ground into fine powder.



Leaves – Cold extraction using sequential extraction method



Bark – Soxhlet extraction method

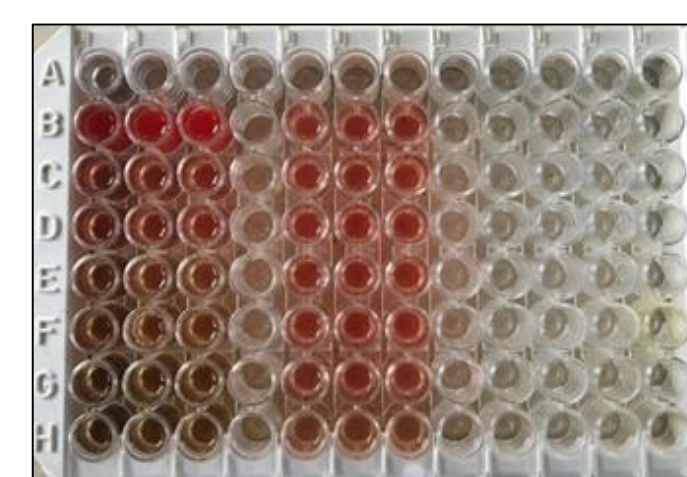
Human red blood cell (HRBC) membrane stabilization assay

A 1 mL standard/ sample was mixed with 0.1 mL of 10% red blood cell suspension

Incubated at 56°C for 30 mins

Samples were cooled to RT and centrifuged

The absorbance of the samples was measured at 560 nm using a plate reader

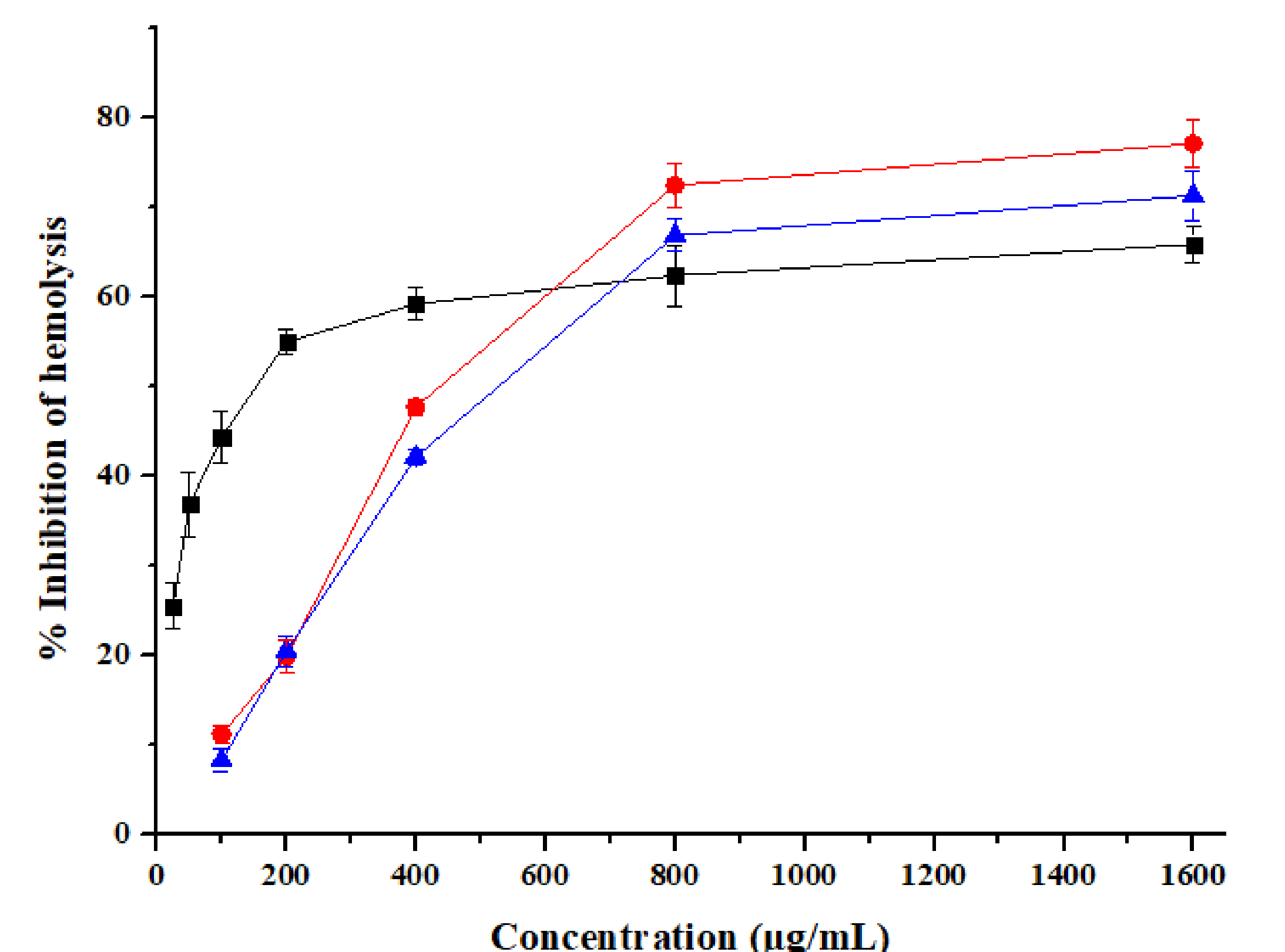


- Standard – **Aspirin**
- Control – **Red blood cell suspension**

Results

- % *Inhibition* = $\left[\frac{A_{control} - A_{sample}}{A_{control}} \right] \times 100\%$,
Where A = Absorbance
- Expressed as IC₅₀ values

Inhibition of hemolysis of ethanol extracts of leaves and bark compared to aspirin standard



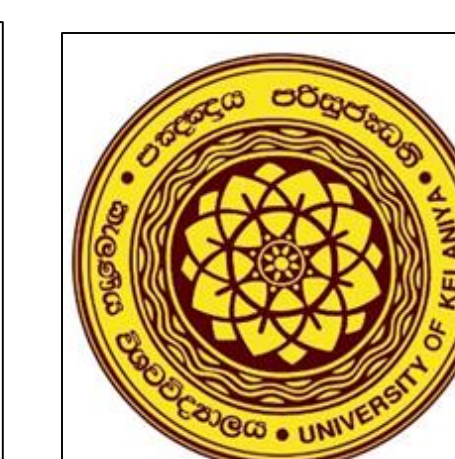
IC₅₀ values of samples

Sample	IC ₅₀ value (µg/ mL)
Ethanol extract of bark	425.7±9.3
Ethanol extract of leaves	525.0±7.6
Aspirin	162.0±7.9

Conclusion

- The present study demonstrates significant (p<0.05) anti-inflammatory properties of ethanol extracts of the leaves and bark of *D. ovoideum* Thwaites.
- These plant extracts can be used to isolate active compounds that exhibit anti-inflammatory activities and develop value-added products to treat inflammation.

Acknowledgement



References

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