

## **Comparative Evaluation of Medicinal and Nutritional Benefits of *Lansium Parasiticum* and *Euphoria Malaiense* Fruits**

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### **Structured Abstract**

**Background:** *Lansium parasiticum* and *Euphoria malaiense* are local Malaysian fruits cultivated and commercialized for a long time. Both fruits are rich in nutrients and deliver health benefits to human body. This make *L. parasiticum* and *E. malaiense* fruits as supplements for adequate nutrients in daily food intake. However, the absence of comprehensive information about the health benefits of these fruits makes them the least favorable fruits consumed by the public. Therefore, exploring the nutritional and phytochemical constituents would promote their consumption status in villages and cities to promote their inclusion in modern food & drug industries. Thus, this project aims to determine the elemental compositions and phytochemical constituents in the fruits and assess each fruit's contributions to the recommended dietary intake of different age groups (9-70 years) both female and male of Malaysian populace.

**Methods:** This study employed methodologies such as the Soxhlet extraction process to extract the phytochemicals from the fruit's parts (peels and flesh of *E. malaiense* and *L. parasiticum*). Qualitative phytochemical screening tests were performed to identify the secondary metabolites. Furthermore, qualitative and quantitative elemental analysis was also conducted by ICP-OES. The elemental data obtained were computed and expressed mathematically to assess their recommended contributions among different age groups.

**Results:** The phytochemical results indicate that the peels and flesh of both fruits contained secondary metabolites such as steroid and protein. However, flavonoids, steroids, saponin, and protein are all presented in the peels of *L. parasiticum*. Furthermore, among the elements analyzed such as Mg, Na, Zn and Fe, for example, the Mg concentrations were found to be 0.136 and 0.157 mg/L in the flesh of *E. malaiense* and *L. parasiticum*, respectively, which contributes greatly towards RDA. It can also be estimated that consuming 2.0 g of flesh of *E. malaiense* and *L. parasiticum* contribute to about 0.032-0.044 % of Mg respectively, towards the RDA for females aged 9-70 years.

**Conclusion:** In conclusion, these findings suggest that consuming *E. malaiense* and *L. parasiticum* fruits can be beneficial for human health as they contain several essential elements, phytochemicals, and their RDA that can be referenced in our daily intake.

**Keywords:** *E. malaiense*, *L. parasiticum*, phytochemical, essential elements.

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