

# **Evaluation of Phytochemical Constituents, Proximate Compositions, Minerals Content and Acute Toxicity Study of Leaves of *Carica papaya* L. (Thin Baw)**

Lei Lei Win<sup>1</sup>, Khaing Khaing Mar<sup>1</sup>, Saw Ohnmar Khin<sup>1</sup>, Kyawt Kyawt Khaing<sup>1</sup>, Kyi San<sup>1</sup>, Nu Ye Thin<sup>1</sup>, Aung Thura<sup>1</sup>, Nwe Nwe Yi<sup>2</sup>, and Khaing Khaing Kyu<sup>3</sup>

<sup>1</sup>Department of Medical Research

<sup>2</sup>Department of Biology (Sagaing University of Education)

<sup>3</sup>Department of Chemistry (University of Mandalay)

## **Abstract**

*Carica papaya* L., belongs to family Caricaceae is commonly known as papaya in English, Thinbaw in Myanmar. It is widely found in Myanmar and all over the world. The present study was aimed to scientifically evaluate the phytochemical constituents, proximate compositions, minerals content and acute toxicity study of papaya leaves. Qualitative phytochemical investigation was carried by Harbone J.B (1998) and Raaman (2006), and papaya leaves contained alkaloids,  $\alpha$  amino acid, carbohydrate, flavonoids, glycosides, phenols, protein, reducing sugar, saponins and tannins. The proximate compositions were done by AOAC (1990) guidelines, while mineral elements were measured by flame atomic absorption spectrophotometer. According to proximate compositions, moisture, ash, fiber, fat, protein and carbohydrate in papaya leaves were found to be 6.00, 12.14, 8.84, 5.13, 27.88, 40.01% respectively. Macrominerals (Ca, Mg, K, Na) content of papaya leaves were  $1650.71 \pm 12.46$ ,  $67.83 \pm 0.16$ ,  $206.55 \pm 0.57$ ,  $54.66 \pm 0.65$  ppm. Microminerals (Cr, Cu, Fe, Mn, Zn) content of papaya leaves were  $2.01 \pm 0.47$ ,  $10.43 \pm 0.04$ ,  $84.71 \pm 0.41$ ,  $73.40 \pm 0.23$ ,  $26.75 \pm 2.73$  ppm respectively. Toxic minerals, Cd was not detected and Pb content was  $6.26 \pm 1.24$  ppm. All minerals content were within maximum permissible limits (WHO, 1996, FAO/WHO, 2001, Ajasa, 2004 and WHO, 2005). Acute oral toxicity study was done in ICR mice by OECD 425 guideline (2008) and no acute toxic sign and lethality at the dose of 5000 mg/kg ( $LD_{50} > 5000$  mg/kg). These results indicated that, papaya leaves possessed the potential to provide essential nutrients with important minerals. Thus, papaya leaves can be used as not only food supplement but also alternate source of bio nutrient for human health. The results of current study gave scientific support in traditional medicine. And also recommended as a plant of phyto pharmaceutical importance and acute safe for consumption.

**Key Words:** Proximate Compositions, Minerals Content, Atomic Absorption Spectrophotometer, Acute Toxicity, and *Carica papaya* L