

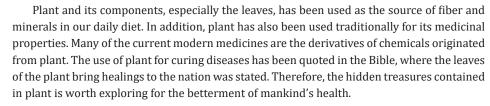


## Novel Medicinal Property of Plants: The Hidden Treasures

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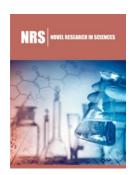
## Introduction



Traditional medicine has continuously played an important role in medicine. In developing countries, 70-95% of the population depend on traditional use of medicinal plants as primary source of medicines [1]. In developed countries, 70-90% of the population use traditional medicinal plants as complementary and alternative medicines [2]. Herbal medicine is referred to as herb, it comprises of herbal materials, herbal preparations and finished herbal products that contain active ingredients of plants [2]. Herbal medicines are commonly used for prevention or diseases treatment or as health care supplements since thousands of years ago. Nevertheless, herbal medicine is not fully safe for consumption, adverse effects on safety and efficacy of herbal medicine usage have been reported [2,3]. Due to the reason that herbal medicine has been used traditionally, many assume that all plant-based medicines are safe, ignoring the fact that some medicinal plants inherited toxins [3]. Other problems associated with the use of herbal medicines include consumption of wrong species of medicinal plants, inappropriate use of herbal medicines and the use of contaminated of herbal medicines that contained toxic metals, agrochemical residues and pathogens [3]. In order to combat these issues, The World Health Organization (WHO) has developed a series of guidelines to monitor the safety, efficacy and quality of herbal medicines [2-4]. In addition, a series of monographs on medicinal plants have been published by WHO to provide scientific information on the safety, efficacy and quality of the widely used medicinal plants. Nevertheless, there are much need to be done in view of the unlimited values of plants' medicinal properties.

In modern medicines, a large number of the bioactive compounds are derived from plants to name a few; quinine and artemisinin as antimalarial drugs; vinblastine, vincristine, paclitaxel and campthotecin as anticancer drugs; galantamine for Alzheimer's disease; L-dopa and apomorphine for Parkinson's diseases [5,6]. The use of plant not only limited to its small molecular compounds, its protein-based compounds have also been used, bromelain from pineapple extract contains proteolytic enzymes, it is available commercially as an oral drug for treatment of inflammation, blood-coagulation related and malignant diseases [7]. Sweet-tasting proteins, namely thaumatin and miraculin are used as a taste masking agent, low calorie sweetener and flavor enhancer [8].

Plant has been an important subject of pharmaceuticals scientific research. In the author's home country, Malaysia, a tropical country, has been reported to host over 6000



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species of plants [9]. Although some of these plants have long been used for medicinal purposes, knowledge on their usages is not well documented and it is usually passed down orally and committed to memory. The lack of proper research and documentation of traditional medicinal plants has led to the misuse of many valuable medicinal plants. Therefore, the author foresees a more intensive and systematic documentation on the traditional usages, and the scientific findings of the medicinal plants will be beneficial to mankind, especially in view that there are many diseases known to man that still lack of effective cure, and the answers may lie in the medicinal property of the unexplored plants.

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