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Compilation of Ethnomedicinal Knowledge of Acanthaceae Species By Ethnic Group in Sabah and Sarawak, Malaysia

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ABSTRACT

With over 4 000 species worldwide, the Acanthaceae family is a large and diverse group of plants. Within the regions of Sabah and Sarawak, over a hundred species of Acanthaceae have been identified, with many of them being employed for their traditional medicinal properties. The ethnomedicinal knowledge of Acanthaceae by ethnic in Sabah and Sarawak is a complex and fascinating topic. Different ethnic groups in the region have different uses for this plant and their knowledge is often passed down through generations. Hence, the aim for this paper is to compile and comprehend all published information on the usage of Acanthaceae species by the ethnic group in Sabah and Sarawak for traditional medicinal purposes. From our data collections, seven species of Acanthaceae is known being used traditionally to treat ailments such as stomach aches, skin problems or headaches either by boil the leaves and drink as a tea or applied as a paste. For example, the Murut people of Sabah use the leaves of *Graptophyllum pictum* (L.) Griff. to treat headache while the Dayak people of Sarawak also use the leaves of *G. pictum* for bathing to treat jaundice for baby. This knowledge is an invaluable asset that merits preservation and can facilitate the development of novel disease treatments. Data from this paper also important for the conservation of Acanthaceae plants as well as for the development of new medicinal and food products. To date, the knowledge of these plants is still being actively researched and documented.

Keywords: Borneo, Ethnobotany, Indigenous, *Justicia*, Lamiales, Traditional medicines

COMPILATION OF ETHNOMEDICINAL KNOWLEDGE OF ACANTHACEAE SPECIES BY ETHNIC GROUP IN SABAH AND SARAWAK, MALAYSIA

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ABSTRACT

With over 4 000 species worldwide, the Acanthaceae family is a large and diverse group of plants. Within the regions of Sabah and Sarawak, over a hundred species of Acanthaceae have been identified, with many of them being employed for their traditional medicinal properties. The ethnomedicinal knowledge of Acanthaceae by ethnic in Sabah and Sarawak is a complex and fascinating topic. Different ethnic groups in the region have different uses for this plant and their knowledge is often passed down through generations. Hence, the aim for this paper is to compile and comprehend all published information on the usage of Acanthaceae species by the ethnic group in Sabah and Sarawak for traditional medicinal purposes. From our data collections, seven species of Acanthaceae is known being used traditionally to treat ailments such as stomach aches, skin problems or headaches either by boil the leaves and drink as a tea or applied as a paste. For example, the Murut people of Sabah use the leaves of *Graptophyllum pictum* (L.) Griff. to treat headache while the Dayak people of Sarawak also use the leaves of *G. pictum* for bathing to treat jaundice for baby. This knowledge is an invaluable asset that merits preservation and can facilitate the development of novel disease treatments. Data from this paper also important for the conservation of Acanthaceae plants as well as for the development of new medicinal and food products. To date, the knowledge of these plants is still being actively researched and documented.

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INTRODUCTION

Plants serve many purposes such as food, convenience, remedy and more. According to estimates provided by the World Health Organization (WHO), most of individuals in underdeveloped nations, approximately 80% depend on traditional medicines, specifically plant-based remedies for their fundamental medical necessities (Singh *et al.*, 2015). It is noteworthy that over 40% of frequently prescribed drugs worldwide are derived from either plant or animal sources, which is a testament to the substantial impact that these traditional practices and knowledge have had on modern medicine (Ahmad & Ismail, 2003). The usage of medicinal plant among local communities in Sabah and Sarawak is common due to their knowledge to utilize the plant benefit. Most of the time, the extract of selected plant is utilized as remedy to cure diseases in the most part of Sabah and Sarawak. One of the factors that influence local communities to keep using plant as traditional medicine is the availability of the plant resources. In the primary healthcare system of a resource-poor community, traditional medicine has persisted as the most relatively affordable and conveniently available form of treatment (Hosseinzadeh *et al.*, 2015).

Ethnomedicinal studies have shown that Acanthaceae plants have promising potential for the development of new drugs and treatments. A number of Acanthaceae plants are also being investigated for their potential to treat cancer and other chronic diseases (Lem *et al.*, 2022; Maria *et al.*, 2012; Poolsup *et al.*, 2004). Although Acanthaceae is known for their medicinal properties and is one of the largest plant families in Malaysia, however, there are neither comprehensive updated checklist made on Acanthaceae nor traditional medicinal knowledge on this family specifically for Sabah and Sarawak. Hence, this review paper intends to compile and discuss the ethnobotanical knowledge of Acanthaceae as traditional medicine among ethnic group in Sabah and Sarawak. The output of this study can be used as guideline for future research related to the usage of plant as traditional complementary medicine (TCM) alongside modern medication.

Acanthaceae (Lamiales, Asteridae)

Acanthaceae, or mostly known as the Acanthus family, is one of the families in the Lamiales order. It contains over 4 000 species within the dicotyledonous flora distributed throughout tropical and subtropical forests across the globe, including regions such as Indonesia, Malaysia, Africa, Brazil and Central America (POWO, 2023; Utteridge & Bramley, 2020; Manzitto-Tripp *et al.*, 2022). These species have a range of applications, including ornamental, medicinal, and culinary purposes. Notably, Acanthaceae plants have been employed medicinally for treating wounds, stomach-aches, and fever, while their leaves and flowers, respectively, are used as