

## **Genus ophiorrhiza: a review of Its distribution, traditional uses, phytochemistry, biological activities and propagation**

### **ABSTRACT**

Almost 50 species of Ophiorrhiza plants were reviewed in this work and the main objective is to critically analyse their distribution, phytochemical content, biological activity, and propagation. Moreover, the information would be useful in promoting the relevant uses of the plant, especially in the medicinal fields based on in vitro and in vivo studies. To this end, scientific sources, including theses, PubMed, Google Scholar, International Islamic University Malaysia IIUM EBSCO, PubChem, and Elsevier, were accessed for publications regarding the Ophiorrhiza genus in this review. Scientific literature regarding the Ophiorrhiza plants revealed their wide distribution across Asia and the neighbouring countries, whereby they were utilised as traditional medicine to treat various diseases. In particular, various active compounds, such as alkaloids, flavonoids, and terpenoids, were reported in the plant. Furthermore, the Ophiorrhiza species showed highly diverse biological activities, such as anti-cancer, antiviral, antimicrobial, and more. The genus propagation reported could produce a high quality and quantity of potent anticancer compound, namely camptothecin (CPT). Hence, it is believed that the relevant uses of natural compounds present in the plants can replace the existing crop of synthetic anticancer drugs associated with a multitude of unbearable side effects. Additionally, more future studies on the Ophiorrhiza species should be undertaken to establish the links between its traditional uses, active compounds, and pharmacological activities reported.

**Keyword:** Genus Ophiorrhiza; Distribution; Traditional uses; Bioactive molecules; Biological activity; Propagation