

## LETTER TO THE EDITOR

**Red butterfly wing (*Christia vespertilionis* (L. f.) Bakh. f.): a potential anticancer and antiplasmodial herb under threat of survival in Malaysia**

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Dear Editor,

In today's clinical practice, cancer is considered as one of the most dangerous illness that records second highest mortality and morbidity in the world (1). Among Malaysian population, cancer is responsible for most mortality rates as per the report from WHO (2). Most of the treatment options for cancer include use of synthetic drugs, however, herbal sources are gaining importance for cancer treatment in traditional medicine. Some of the medicinal plants that have been used traditionally from ancient times in the treatment of serious diseases are under severe threat of survival. The International Union for Conservation of Nature and Natural Resources (IUCN) has identified and listed variety of species under red list (3). One such valuable species listed in IUCN red list of threatened species (Least concern) in Malaysia is *Christia vespertilionis* (L. f.) Bakh. F (Fig. 1), (Family: Fabaceae), commonly known as 'Red butterfly wing' is well known by the Malaysian community as a promising herb for cancer treatment. Traditionally, the whole plant *C. vespertilionis* is used to treat tuberculosis, increase blood circulation, bronchitis and cold (4). Nevertheless, there is only very little research evidences available on the selected plants for its pharmacological activity. A study on the antitumour activity of *C. vespertilionis* leaf extract in vivo in mice with S180 and H22 tumour cells, revealed significant inhibition of the tumour growth and prolongation of the survival time in tumour bearing mice, suggesting that this plant may be an important source in the treatment of neuroendocrine cancers (5). Moreover,



Figure 1: 'Red butterfly wing' [*Christia vespertilionis* (L. f.) Bakh. F]

the whole plant extract has also been reported for its anti-plasmodial activity against chloroquine resistant FcB1/Colombia strain of *Plasmodium falciparum*. The study reported 87.8% suppression of parasitaemia when compared to chloroquine which resulted completed suppression on 8th day of study (4). To conclude, though *C. vespertilionis* has been recognised as one of the best herb in treatment of cancer by the local folks, research-oriented evidences have not yet been reported for its phytochemical standardisation, toxicological and pharmacological studies. Considering the high mortality rates of cancer and limited therapeutic choices with several adverse effects, it is the need of the hour to explore anticancer activity of this plant on various cancer cells. Furthermore, this incredible herb is currently listed as threatened species in Malaysia, thus future direction may expand the knowledge on the pharmacological values of this herb and increase its application as an alternative anticancer agent.

## REFERENCES

1. World Health Organization - WHO fact sheet: cancer. 2018. Retrieved from <http://www.who.int/mediacentre/factsheets/fs297/en>.
2. World Health Organization – Non-communicable Diseases (NCD) Country Profiles. 2018. Retrieved from: [https://www.who.int/nmh/countries/mys\\_en.pdf](https://www.who.int/nmh/countries/mys_en.pdf).
3. Chadburn, H. *Christia vespertilionis*. The IUCN Red List of Threatened Species 2012. (Retrieved from <http://dx.doi.org/10.2305/IUCN.UK.2012.RLTS.T19892028A20042444.en>).
4. Osman MS, Ghani ZA, Ismail NF, Razak NA, Jaapar J, Ariff MA. Qualitative comparison of active compounds between red and green Mariposa *Christia Vespertilionis* leaves extracts. In AIP Conference Proceedings 2017 Sep 26 (Vol. 1885, No. 1, p. 020282). AIP Publishing.
5. Hofer D, Schwach G, Ghaffari Tabrizi-Wizsy N, Sadjak A, Sturm S, Stuppner H, Pfragner R. *Christia vespertilionis* plant extracts as novel antiproliferative agent against human neuroendocrine tumor cells. *Oncology reports*. 2013 Jun 1;29(6):2219-26.