



The medicinal use of *Eclipta prostrata* (L.) L. in the treatment of inflammatory bowel disease in Cambodia

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Sir,

Eclipta prostrata (L.) L. (Khmer name: *Khmanh*) belongs to the family Asteraceae, and it is also known as *Eclipta alba* Hassk., and *Eclipta erecta* Lam. *Eclipta prostrata* (L.) L. is an erected or diffuse herb, 10 - 80 cm high (Dy, 2000). The stem is cylindrical or flat and rough due to appressed white hairs; its nodes are distinct and greenish or brownish. The leaves are opposite, sessile to subsessile, 2 - 6.2 cm long, and 1.5 - 1.9 cm wide; it is oblong, lanceolate, sub-entire, acute to sub-acute, and strigose with appressed hairs on both surfaces (Vikaspedia, 2020). *Eclipta prostrata* (L.) L., native to Cambodia, is widely distributed in the tropical, subtropical, and warm temperate regions (CAB International, 2020). *Eclipta prostrata* (L.) L. is commonly known as a therapeutic agent treating various diseases including hepatitis, snakebite, alopecia, respiratory disorders, inflammatory diseases, and gastrointestinal disorders (Rana, 2020). This ethnopharmacological note is aimed at reporting the medicinal use of *Eclipta prostrata* (L.) L. in the treatment of Inflammatory Bowel Disease (IBD) in Cambodia. The informant, Son But (62 years old), is a Cambodian female folk healer who has experienced the traditional healing for 34 years. The informant was subjected to the interview on 12th November 2020, concentrating mainly on the questions about plant part used, preparation method, administration route, and treatment of diseases. *Eclipta prostrata* (L.) L. was found, photographed (Figure 1), and recorded with the GPS coordinates at 11°27'04.2"N 104°47'30.5"E, located in Krom Angk, Sangkat Prateah Lang, Khan Dangkao, Phnom Penh. The informant reported that the *Eclipta prostrata* (L.) L. is used to heal IBD. The whole plant of *Eclipta prostrata* (L.) L., in fresh form, is collected and divided into two halves. The first half is subjected to decoction and then filtered, and the second half is open dried and subjected to pulverization. The plant powder and the filtrate are thoroughly mixed together before drying in the oven with the temperature ranging from 30 - 50 °C. Subsequently, the mixture is open dried, and pulverized before compressing the mixture into tablet form (500 mg/tablet). Two tablets are orally administered thrice a day to assure the cure of the illness. The IBD is a disease caused by some agents including bacteria, viruses, and antigens triggering the body's immune system to produce an inflammatory reaction in the intestinal tract (Khatri, 2019). The ethanolic extracts of *Eclipta prostrata* (L.) L. showed a large zone of inhibition observed in disc diffusion antibacterial screening against *Salmonella typhi*, *Shigella sonnei*, *Escherichia coli*, *Salmonella Paratyphi A*, *Pseudomonas aeruginosa*, *Bacillus subtilis*, *Bacillus cereus*, *Bacillus megaterium*, and *Staphylococcus aureus* at the concentration of 1 mg/disc (Uddin et al., 2010). Moreover, some phytochemicals such as alkaloids, glycosides, flavonoids, terpenoids, steroids, tannins, phlorotannins and saponins in the ethanolic extract of *Eclipta prostrata* (L.) L. inhibited the acetic acid or formalin-induced pain in rodents (Rahman et al., 2012). *Eclipta prostrata* (L.) L. was reported on possessing wedelolactone, eclalbasaponins, ursolic acid, oleanolic acid, luteolin, and apigenin. Wedelolactone (C₁₆H₁₀O₇), an organic chemical compound classified as a coumestan, was found to have an anti-inflammatory activity as the wedelolactone inhibits



lipopolysaccharide-induced caspase-11 expression in cultured cells by inhibiting NF- κ B-mediated transcription. It has further been shown that wedelolactone is an inhibitor of IKK, a kinase critical for activation of NF- κ B by mediating phosphorylation and degradation of I κ B α . Wedelolactone also reportedly significantly inhibited the protein expression levels of iNOS and COX-2 in LPS-stimulated RAW264.7 cells, as well as the downstream products, including NO (nitric oxide), PGE2 (prostaglandin E2), and TNF- α (tumor necrosis factor- α) (Jahan et al., 2014). In conclusion, the whole plant of *Eclipta prostrata* (L.) L., with wedelolactone, can treat the IBD via the inhibition of infected bacteria and inflammatory contents.

Keywords: *Eclipta prostrata* (L.) L., Inflammatory Bowel Disease, wedelolactone, anti-inflammatory activity

DECLARATION OF CONFLICT OF INTEREST

We have no conflict of interest to declare.

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Figure 1. *Eclipta prostrata* (L.) L. (local name: *Khmanh*)