A preliminary investigation on the cobra-repellent activity of Andu, *Eryngium foetidum* L

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Foliage of Andu, *Eryngium foetidum* L., is traditionally used in Sri Lanka to repel cobras, *Naja naja naja* L. Application of aqueous suspension of crushed Andu leaves, spreading dried leaves and growing Andu plant in agricultural lands and residential areas are the traditional practices used to repel cobras. Traditional practices indicate the presence of compounds in Andu that may have a repellent activity against cobra.

Active cobra-repellents present in Andu plant were collected by steam distillation and solvent extraction. Steam distillation was carried out using the arial parts of fresh Andu plants. Steam volatiles were extracted into diethyl ether and concentrated. Solvent extraction involved extraction of air-dried and crushed arial parts of Andu plants with diethyl ether in a Soxhlet extractor for four hours followed by concentration of the extract. Repellent activity of extracts obtained from both methods was assayed against cobra using a two-choice laboratory bioassay. The bioassay method consisted of visually observing the behavioral responses of cobra to a bait station treated with extracts and comparing it to the responses towards a solvent-treated control station. It was visually observed that whether the cobra uses bait stations as prey within 15 minute time period. Each treatment was replicated five times. Significant differences of the proportion of cobra responses between the solvent control and extracts of steam distillation and solvent extraction each were tested separately using Cochran's Q test. Bioassay showed that the steam-distilled volatile extract associate with very strong repellent activity on cobra. Dose response bioassay showed that the maximal activity associate with 0.1 mg equivalent of steam distilled oil. However, the extract obtained from solvent extraction showed no repellent activity. Thin layer chromatographic and gas-liquid chromatographic analysis of steam distilled volatiles showed that the extract contains more than one compound. Therefore, the repellent activity of Andu may be associated with one or more compounds present in steam distilled oil.

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