



## Qualitative and Quantitative Information on Health Hazards of Ant Stings from a Survey Conducted in Sri Lanka

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Worker ants in Myrmicinae, Ponerinae and Pseudomyrmicinae (Hymenoptera: Formicidae) form a significant biotic component in diverse habitats including homes, home gardens, school and university premises, forests, non-agricultural lands and agricultural lands and elsewhere in Sri Lanka. Hence, ant bites and stings are commonly reported in the country and qualitative and quantitative information on consequences on such stings should be documented. A questionnaire was filled by interviewing hundred randomly selected individuals in 2018-2019 to describe the symptoms observed by each individual after the sting and to determine the percentage frequency of short term, mild or severe allergic symptoms developed by each, <20, 20-29, 30-50 and >50, years age group. Residential patients getting treatment at the District hospital, Gampaha due to ant stings were also among them. Worker ants were collected, where possible, and identified to the species level using a Low Power Stereomicroscope and relevant references. Other ant species were identified using the descriptions and common names of ant species mentioned by the victims.

Three arbitrary categories were recognized for the convenience in data analysis. The appearance of small, red blisters and pruritus in the affected area immediately after the sting, and recovery after a short period without any treatment, 'short term allergic symptoms' (Group A), the appearance of hives and angioedema, severe headache, dizziness after the sting and treated without hospitalization, 'mild allergic symptoms' (Group B) and in addition to Group B symptoms, sudden unconsciousness due to ant sting followed by treatments at the hospital, 'severe allergic symptoms' (Group C). Proportion of each <20, 20-29, 30-50, >50 group observed in Group A was 44 %, 91%, 83% and 75%, respectively while 48%, 7% 17% and 8% among of each age group belonged to Group B. Any individual in the 30-50 years of age didn't show severe symptoms whereas 7% of <20, 2% of 30-50 and 17% of >50 group showed severe allergic symptoms. Among the three groups based on consequences, Group C had a significantly lower number of individuals (Chi Square;  $p < 0.05$ ). *Diacamma indicum* (Forel, 1903), *Diacamma rugosum* Forel, 1911 and *Odontomachus simillimus* Smith F., 1858 were identified from the samples provided by Group C victims.

It appeared that stings of *D. indicum*, *Solenopsis geminata* (Fabricius, 1804) and *Trichomyrmex destructor* (Jerdon, 1851) caused Group A and B symptoms.

**Keywords:** medical importance of ants, Ponerinae, Myrmicinae, allergic symptoms, ant stings