

A preliminary study of foliar trichomes of the ornamental and naturalized varieties of *Lantana camara* L.

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Foliar trichomes play a defensive role in plants, and have been of considerable importance in comparative studies in biology and taxonomy. This study investigated foliar trichome characteristics of *Lantana camara* L. (Verbenaceae), a well-known invasive alien species. Trichomes were investigated by observing foliar epidermal peels of four ornamental (purple, yellow, white, and pink coloured) *L. camara* varieties, a less common variety, *L. camara* var. *alba*, and two naturalized varieties, *L. camara* var. *camara* and *L. camara* var. *splendens*, collected from different localities. Significant differences among foliar trichome types, lengths, widths, and densities were identified using Analysis of Variance (ANOVA). One non-glandular type and two types of glandular trichomes were identified in all *Lantana* varieties. Non-glandular trichomes on abaxial surfaces were much longer and broader than those on adaxial surfaces, however this difference was small in the purple and yellow flowered ornamental varieties. Adaxial surfaces of naturalized varieties also had a few exceptionally longer, non-glandular trichomes. The non-glandular trichome density was higher on the adaxial surface in all varieties, and varied among varieties. In naturalized varieties, trichome density also varied in sampling localities and the presence of higher density was indicated in open environments. Among the two types of glandular trichomes found, type I had a head on a two celled elongated stalk, and type II had a head on a short stalk. In ornamental varieties, type II glandular trichomes were short and “U” shaped with an open top. The density of glandular trichomes was low, compared to non-glandular trichomes, although a higher density was reported on the abaxial surface of naturalized and ornamental varieties excluding the yellow and purple flowered ornamental varieties. Glandular trichomes, which secrete allelopathic essential oils, were less abundant in ornamental varieties compared to those on naturalized varieties. This suggests that foliar trichomes in ornamental varieties may not assist in self-defence as naturalized varieties do. Therefore, it is recommended to incorporate foliar trichome features in assessing invasiveness and further characterization of *L. camara* varieties in Sri Lanka.

Key words: *Lantana camara*, trichomes, foliar anatomy.