FIG-WASP RELATIONSHIPS AND SYCONIAL CHARACTERS OF *FICUS HISPIDA* L. (MORACEAE) IN THREE DIFFERENT LOCALITIES IN KANDY DISTRICT, SRI LANKA

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Ficus hispida L. is a gynodioecious fig species. It depends on the fig-wasp *Ceratosolen solmsi marchali* Mayr, 1906 for its pollination and wasp depends on *Ficus* syconia for its reproduction. Non-pollinator fig-wasps play a vital role in fig/fig-wasp community, by exerting negative impacts on the fig-wasp mutualism. The present study was conducted from January 2012 to December 2013 to investigate the effect of forest disturbance on pollinator and non-pollinator wasp relationships and the syconial characters of *F. hispida* in three localities with different vegetation disturbance levels due to human settlements. Three sites were selected for the study; *viz.*, highly disturbed urban core within Kandy Municipal Council area (KM), moderately disturbed park of the University of Peradeniya (UP) and a less disturbed traditional village setting in Tumpane/Hataraliyadda area (TP). *Ficus hispida* trees were recorded within 1 km radius area in each site. Mature syconia were collected randomly throughout the study period. Length and diameter of the syconia were recorded, cut into two equal halves and reared. The fig-wasps and cut syconia were preserved. Florets, pollinator and non-pollinator fig-wasps were counted. The diameter of syconia (DS) and the volume of syconia (VS) among three study sites were significantly different ($p < 0.05$) and the highest mean DS (34.72±3.58 mm) and the highest mean VS (16,899±4591 mm^3) were reported from UP. However, the highest mean length (LS) was reported from TP, and it was almost similar to that of UP. The number of florets per syconia (Fl/S) was significantly different ($p < 0.05$) within the sites and highest mean Fl/S was reported in UP (1,496.5±442.3). The Fl/S increased with the increase of the VS. The pollinator fig-wasp females (PWF), pollinator fig-wasp males, non-pollinator fig-wasp females, and their sex ratios were significantly different ($p < 0.05$) among the sites. Non-pollinator fig-wasp males were significantly different among the KM and UP ($p < 0.05$). However, they were not found in TP site. The highest mean PWF was reported in KM followed by UP and TP. The sex ratios followed the same pattern, and all ratios were female biased. Pollinator ratio was significantly different among the sites ($p < 0.05$), and the highest mean proportion was recorded from KM (0.8660±0.0522). The disturbance of vegetation may have negatively affected the syconial characters of *Ficus*, hence, the number of fig-wasp production per syconia. However, the disturbance had no negative effect on the fig/fig-wasp system and pollinator/non-pollinator relationships.

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