Potential for climate effects on the size-structure of host-parasitoid indirect interaction networks

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Supplementary Material

As a measure of the degree of foraging electivity exhibited by *Asaphes vulgaris* over the course of each month, we created a variable, henceforth referred to as deviance, made up of the absolute Strauss Linear Index values recorded for each aphid species during each month. However, this metric may cause problems when comparing values across months where the number of aphid species available varies. In order to remove this effect, we performed a series of linear regression analyses testing for relationships between the number of host species and mean, median and sum deviance. The results of the analyses suggest that both mean (Figure 1) and median (Figure 2) deviance exhibited strong negative relationships with the number of host species present during the month. However, conversely to what would be expected, sum deviance was not inherently related to the number of aphid species that provided SLI values during that month (Figure 3). The negative trends found for mean and median deviance were most likely because the additional species present at the higher values of the ‘number of aphid species’ were rare both in the environment and in the diet, which means they had SLI values close to zero resulting in lower average deviance values but not affecting the sum values. These results suggest that sum deviance was the best measure of degree of foraging electivity to allow statistical comparisons between months in which there were different numbers of available aphids.
Figure 1. Mean monthly deviance exhibited a significant negative relationship with the number of aphid host species for which SLI values were obtained that month ($F_{(1,44)} = 15.1$, $P < 0.001$).
Figure 2. Median monthly deviance also exhibited a significant negative relationship with the number of aphid species for which SLI values were obtained that month ($F_{(1,44)} = 22.31$, $P < 0.001$).
Figure 3. The sum deviance of a given was not significantly associated with the number of SLI values obtained for that month ($F_{(1,44)} = 0.03$, $P=0.87$)