

This paper addresses an interesting question on how consumer species--in this case, a butterfly--spatially distribute themselves amongst their resource species--in this case, host plants and ants. This study goes beyond most others on this topic in several ways. First, it assesses not only the resources quantity (number of plants/number of ant mounds per unit area) and quality (plant development stage) but also the contrast in quality between neighboring plants. In effect, it asks how context affects butterfly incidence: is a butterfly more or less likely to choose a high quality host plant for oviposition if surrounded by low quality plants?; is the effect of plant quality on incidence diminished in isolated plants, where butterflies have little immediate basis of comparison? This paper shows that context is important: Plant quality and plant abundance have positive synergistic effects on butterfly incidence, and, poorer plants are more likely to not be used if isolated.

The one weakness of the study is that butterfly oviposition was not directly observed. Plants were examined and the number of eggs on each were counted. Because of this, the authors have chosen to err on the side of caution, and do not say definitively if the eggs found on individual plants are the offspring of a single mother, or were deposited by several. Is there additional information on how frequently multiple females lay eggs on the same plant, say from the Van Dyck & Regniers paper that is cited? If plants were visited by a single female, the analysis could be broken down into a question about how females chose plants, and then subsequently, how many eggs they decide to deposit. In any case, the discussion should have a few sentences on how the observed pattern of egg dispersion could be interpreted under the assumptions of single vs. multiple females. In service of this, a figure showing the frequency distribution of egg numbers should be included somewhere in either the main body of the paper or in the supplemental material.

One final point that could be clarified is how the authors decided to use a 3m radius to define the plant neighborhood. Was thought given to use some alternate measure of neighborhood, such as treating all plants as neighbors, weighted by the inverse of the squared distance from the focal plant?