Aim and Scope
Characterize the pollinator community at UB:
Urban pollinator communities are not well understood. This study seeks to identify common pollinator species and compare these findings with statewide records from both urban and natural spaces. Here we report bee species, diversity indices and seasonal variation between fly and wild bee populations.

Estimate abundance of wild bee species at UB:
Surveys of urban biodiversity is generally higher than rural and agricultural systems, however native species are often displaced with non-native and invasive species. A typical consequence of urbanization is also the loss of native floral resources which can impact populations of specialists (pollinators who specialize in a specific plant-host) and generalists who can take advantage of the abnormal variety of plants. At the same time, urban areas have provided refuge for rare and exotic species.

Estimate abundance of fly populations at UB:
Aside from bees, flies are also regarded as an important group of pollinators however the extent and efficiency of their pollinator services is little understood. Flies are one of, if not the most, abundant insect taxa found in urban areas. Thus, surveys of fly diversity and abundance could give insight into the overall biodiversity of an urban area. There are few studies which focus on fly and wild bee interaction, which could be a method to assess urban pollinator health.

Pan-trapping Protocol
• Nine alternating color cups (blue, study (all flies to these Bombus and Simpson and B. impatiens were the most abundant bee species collected A. vesicarius and B. impatiens were found in 7 and 3 samples respectively). All in 6 of the 8 samples. The trend of homogeneity and species turnover associated with urban environments can be clearly seen as compared with the bee flight season at SBM.

Bee Flight Season and Total Abundance
Fig. 8. UB observed flight season of collected bee species. I. pilosum and A. vescicarius were the most abundant bee species collected A. vescicarius and B. impatiens were found in 7 and 3 samples respectively. All in 6 of the 8 samples. The trend of homogeneity and species turnover associated with urban environments can be clearly seen as compared with the bee flight season at SBM.

Pan-trapping Protocol
• Nine alternating color cups (blue, white, yellow) filled with 1:1 Propylene glycol/Water mixture were placed around UB main campus: Bridgeport, CT.
• Eight samples were collected at two week intervals over 16 weeks from the middle of July to early November.
• Specimens of interest were tallied and split into the following taxonomic divisions for simplicity of study: Diptera excluding Syrphidae (all flies except hoverflies) [DeS], Apoidea (bees) [A] and Syrphidae (hoverflies) [S].

Diversity Indices
Shannon-Wiener and Simpson’s Diversity Index Values. Note, this value is higher in Fall than in Summer, which could indicate species richness is higher in a natural space (SBM) than in urban (UB).

Conclusions
• Bombus fervidus, a bumble bee species declining in the northeast and last recorded in CT in 2012, was collected at UB in 2018. Lasiosglossum zonatum, a non-native species of sweat bee on the increase and only recorded twice in CT (2009), was collected at UB in 2018. Four non-native bee species were found on campus. Port cities could serve as entry points for exotic species.
• There is a shift in late-season pollinator community composition.
• Lack of native flora could indicate a direct impact on pollinator community composition.

Future Research
UB campus will be split into a 9-grid system to study spatial patterns of pollinator communities and plant start/end bloom time in each microhabitat. Taxonomic clarification will be expanded for other local pollinators such as flies, butterflies and wasps.

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