Abstract

American crows (*Corvus brachyrhynchos*) are the black-clad rulers of a city’s skies and can be spotted in most North American cities. Over the 5 decades (1960-2010) since they first began breeding in cities years, the abundance of corvids in urban areas has trended upwards, suggesting they benefit from living near humans. Recent literature shows that urbanized species such as the American crow can behaviourally adapt to exploit anthropogenic resources and benefits resulting in positive effects of urbanization on corvids. While individual-level behavioural adaptations are an active area of research, adaptations of social behaviours and their contribution to the success of urbanized species are underexplored.

Sentinel behavior is one group-oriented behavior that may increase survival of group members. Using a scoping review approach, several intrinsic and extrinsic factors that can alter the sentinel behaviour of mammal and avian species were identified. Specifically, factors altering the energetic resources of individuals and risk-related factors can have profound impacts on an individual’s propensity to engage in sentinel behaviour.

During summer 2022, I also made an observational study of American Crow sentinel behavior in both green and commercial areas of St. Catharines, Ontario selected from a Brock community science initiative. Through supplemental feeding and video recording, I observed foraging behaviours in green and commercial areas as well as in the presence and absence of a sentinel and found that American crows alter their social foraging behaviour in different urban microenvironments. I found that the type of environment in which they forage had a significant effect on foraging behaviours, but that the presence of a sentinel had considerably fewer effects than hypothesized. A significant interaction between sentinel presence and generalized environment was also observed, reinforcing the need to consider both intrinsic and extrinsic motivators when studying social behaviours. These findings highlight the need to continue studying the effects of urbanization on social behaviours. By considering both intrinsic and extrinsic effects on sentinel behaviour, future studies could unearth the complex mechanisms behind the evolution of social behaviours and help predict how they could change in an ever-urbanizing future.