**Sentinel behaviour and urban environments: A corvid’s perspective**

The present study investigates sentinel behaviour in American crows (*Corvus brachyrhynchos*). The thesis has four chapters, a general introduction, a scoping review of studies investigating factors affecting sentinel behaviour in mammals and birds, an observational study on sentinel behaviour in American crows and general discussion. The thesis is comprehensive, generally well presented and only has minor weaknesses, which I will outline in my report.

**Chapter 1:**

The introduction is generally well written. Scientific expression could be improved at times. The literature is generally well covered, and the research topic is appropriately introduced. Chapter 1 evidences that the student has good knowledge about the research topic and was able to identify a knowledge gap.

**Chapter 2:**

The second chapter presents a scoping review of factors affecting sentinel behaviour in non-human animals. Generally, the review is considering different extrinsic and intrinsic factors affecting sentinel behaviour is interesting. Several studies have been identified, investigating effects of sex, dominance, and group size as well as effects of satiation, risk, and maturity on sentinel behaviour. One weakness of the study is the fact that it is only weakly linked to the topic of urbanisation, which is a key area in the other chapters. A strength of the work is the student demonstrating the ability to critically reflect on the current literature and conducting a systematic review.

Minor comments:

Terminology changes between ‘included’ and ‘retained’ studies. Standard terminology in systematic reviews would be ‘included studies’.

Page 25: Could avian species not have been considered terrestrial?

Page 29: please include English names of all species.

Page 40 and 41: the link to urban environments could be more explicit. How exactly and why is behaviour expected to vary?

**Chapter 3:**

This chapter investigates sentinel behaviour in American crows and more specifically how urbanisation affects sentinel behaviour. This chapter evidences the students ability to conduct a behavioural study and practical skills.

In order to identify locations with crow presence, the project included a citizen science approach, allowing the general public to record crow observations, resulting in 221 reported sightings. This approach is quite innovative and interesting, and the number of reports is quite nice. The link between the locations reported by the general public and actual observation locations could be more explicit. How often have reported locations been visited and baited? Only one location has been observed multiple times, it would be good to know what the characteristics of this location was. During data collection (June-September) how often have locations been visited? Have all locations been visited equally often?

A weakness of the study is the not-standardised design. I fully acknowledge the challenges of studying wild corvids, however the authors have created quite different conditions (baited, un-baited, using crow-caller), which has the potential to affect results substantially.

The results of the study are well analysed and presented. The analysis of bout length and number of transitions seems a bit repetitive, as those two measures are dependent of each other (if there are more transitions, bout length becomes shorter). Behaviour has been analysed regarding the presence or absence of sentinels, it potentially would be interesting to investigate the number of sentinels? It would be interesting if the ranges in group size could be mentioned either in the methods or results section.

Minor comments:

A difference in foraging behaviour (bout length and peck rate) has been described between green and commercial areas. Has the availability of food been controlled for? Is there any information available on what he crows foraged on in these two environments?

Page 47: ‘American crows are capable of a variety of social behaviours’ is very unspecific. What kind of social behaviour? I would not necessarily recommend the term ‘capable’.

Page 51: how was ‘presence of sentinel’ defined? Describe the behaviour and environmental conditions, e.g. how far away from the group?

Page 58: Please define bout.

**Chapter 4:**

The general discussion (chapter 4) is generally well written and summarizes the work well. It well evidences the student’s ability to critically reflect on the literature and on the own empirical study. Limitations and future directions are well discussed.

*Minor comment:*

Supplementary figure 2: It is not clear what is shown on the x-axis.