Comments to the authors

This study aims to investigate the relationship between individual differences in several aspects of exploration measured in standardized conditions in the lab with space use behaviour measured with remote tracking in the wild. This research will be conducted in great-tailed grackle, a species that has rapidly expanded its range in Central and North America. Individuals will be sampled at the core, middle or front of the expansion range.

This descriptive and comparative study presents some interesting points but also raises some questions/issues that I detail below

1. Abstract:
    a. I find the abstract very misleading. The first few sentences clearly put the emphasis on 'the role of behavioural flexibility' in colonisation process and adaptation to novel environments. Yet the all study is actually about characterising individual consistency (which implies per definition a lack or limitation of flexibility) in exploration and space-use. Also as far as I can judge the evolutionary aspect will not be covered (no fitness measures will be collected). I think it would be much more relevant to place your study in the framework of dispersal syndromes where there is exist quite a large body of literature and hypotheses have been formulated (and for some empirically tested) regarding the role of individual consistent behavioural differences in population dynamics (including colonisation / range expansion).
    b. If the flexibility part is nonetheless included, it should be specified how it relates to individual behavioural consistency. There exist a number of studies that have suggested that behavioural types differ in level of plasticity but empirical testing is still rather limited. It could be a promising avenue to explore.
    c. I disagree with the claim that 'behavioural flexibility is rarely directly tested at the individual level'. There exist many studies that characterise individual variation using behavioural reaction norms with the aim of quantifying individual differences in elevations (i.e. 'personality' or consistent part of the phenotype) and slopes (i.e. flexibility or plasticity). I suggest you read this literature and readjust your claim.
2. Hypotheses:
    a. H1: although I appreciate that the authors have thought of alternatives to their main prediction, the descriptive nature of the data will never allow to draw causal relationships between lab-based behavioural tests and movements measured in the wild. Hence an endless list of alternative predictions could be made and I find some alternative predictions quite far-fetched. E.g. prediction 1 alternative 3: why would approach to a novel object (a pink fuzzy wire) provide information on attraction on human-provided sources of food?? If this is really one of the interpretation why not directly manipulate food types in the lab?
    b. Prediction 1 alternative 4: if no correlations are found, how would that affect the rest of the project? Would it end there?
    c. H2: It would be important to know the age of the different study populations, and the distance /connectivity among the 3 study sites. The reason is that whether or not differences exist in population composition may depend on the speed of the turnover of behavioural types. In blue birds (cited example), this turnover (resulting from frequency-dependent selection on aggression level) is rather slow, i.e. major population differences are found between young populations (<5 years old) and old populations (>20 years old). However in other species, an equilibrium between

dispersive and less-dispersive individuals can be quickly reached (within 2 years) in which case no population differences will be found if sites are colonised for more than two years. Behavioural differences may also erode more quickly if there exists strong connectivity between populations.

d. Prediction 2 alternative 2: no differences may also indicate plasticity (all individuals converge towards the same behavioural profile after dispersal). It would be important to disentangle the two options.

3. Methods:
    a. Why are certain grackles kept for 6 months in captivity? What does their behaviour tell us once released? These birds most likely will lose their territory and/or their social group which may greatly affect their movements.
    b. Where will the caught grackles be released? In the same capturing site? Would it possible to release birds of different origins in different parts of the expansion range? This would allow to experimentally test whether birds will attempt to return their site of origin (where they are presumably locally adapted) or stay but alter their behaviour in an adaptive manner?
    c. It was unclear if repeated behavioural measures (in the lab) will be taken on the same caught individuals. Please specify
    d. It is well established that, in birds, females and juveniles are more dispersive than adult males. How are you dealing with this heterogeneity? Is it the plan to collect a balanced sample in each site? I am wondering whether a total sample size of 57 individuals (i.e. about 20 birds per site) is enough to capture population differences given the heterogeneity among the sampled individuals (sex, age, some staying 6 months in captivity, some not).
    e. Having replicates of populations at the three parts of the expansion range would make the study much stronger. As it is now, any population differences will be confounded with population status (core, middle of expansion and range edge) which makes interpretation of results very difficult.
    f. For how long will individuals be tracked? The glue-on methods may not last as long as the harness attachment method. Pilots may be necessary to determine which method works best.
    g. Analyses: P1-P2: it may be good to include age and time of year as independent variables in the models as large scale movements may be more prevalent in juveniles and in certain times of year