



## **sDiv working group meeting report**

### **"sMacrobehaviour"**

#### ***Working group meeting report***

- *focal areas of discussion + main results/conclusions + open questions*

We discussed the emerging field of macrobehaviour, particularly how species-level behavioural traits can be used to explore geographic variation in animal vertebrate behaviour. To achieve our goals of understanding why and how behaviour varies through space, we focused on three key areas: (1) conceptualising a framework that underlies geographic variation in behaviour, (2) assembling a species-level behavioural traits database, and (3) developing a methodological pipeline to combine behavioural traits with geographic distribution data.

We made significant progress on all three of these key areas, which were the goals of our first meeting. By the end of the week, we had a draft outline for a conceptual paper, the backbone of a traits database with architecture and key traits decided, and the beginnings of a method pipeline. We made key decisions around behavioural generalization across vertebrates, the most fruitful traits to focus on, and the geographical distribution data we would use.

- *content of presentations*

Three presentations were given. The first was delivered by the PIs and gave an overview of the sMacrobehaviour project as a whole, the specific goals for this meeting, and the rules for interactions between meeting participants. The second was delivered by Catherine Sheard and set out key challenges to consider in our quest to assemble the traits database, based on her extensive experience in this area. The third presentation was delivered by Lydia Beaudrot who outlined the methodological challenges we face and offered a framework we could use to direct our development of the pipeline.

- *general research ideas, questions & directions discussed (incl. potential data to be used etc.)*

Our research ideas developed detail around expectations for geographic variation in animal vertebrate behaviour and why this was important. It also allowed us to focus on 10 key traits, which guided the next steps towards data collection. We noted that there were many questions around how to generalize behavioural traits and how different behaviours could be defined, as well as discussions around how to deal with intraspecific variation in behaviour. Our approach will combine existing datasets that are already freely available online, and then to add value by locating the data gaps and biases and making a concerted

effort to fill those gaps with data from the academic literature, grey literature, expert opinion and other local data sources.

- *general structure of the week (break out groups, presentations, sessions with remote participants etc.)*

Throughout the week, we used a combination of small group activities and large group discussion. Often, we would start the morning with everyone together to recap the previous day and raise any questions that had come up overnight. We would then have a presentation to start off the theme of the day (Mon – concepts; Tues – database; Weds – methods) before breaking into small groups to work explicitly on smaller chunks of discussion. There would be opportunity to switch groups throughout this time. In the afternoon, we would reconvene in a larger group and our remote participant would join us. We would agree outcomes from the day, address any issues that came up within smaller groups that would benefit from wider discussion, and start to think about tasks for the following day. PIs would meet before dinner to recap the day, update the online agenda, and make any adjustments to the next day's plans.

- *next steps & upcoming deliverables*

Our next steps are for each of three small working groups to take forward each of the three goals. Each working group has a group lead and is active in arranging remote meetings, that aim to be inclusive across the working group participants. As of the end of May, the database architecture is in place and the pipeline linking species' range maps to specific assemblages is nearly in place. The goal for the summer will be to identify additional data, with different group members responsible for overseeing different traits. We also plan to have a full draft of the conceptual paper complete by the end of July to share with the wider group.

- *general working atmosphere and feedback on sDiv support (What kind of support? How helpful was it?)*

iDiv support during the meeting was exemplary, enabling us to focus on the science rather than spend time dealing with logistics. Our general working atmosphere was highly collegiate and friendly, with all participants listening to one another carefully and thoughtfully – everyone had a voice, which was very important for ensuring we gained the most diverse and insightful perspective in each discussion.