

Additional file 1 for

First insights into the spatial behaviour of *Octopus vulgaris* in the wild using acoustic telemetry

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This PDF file includes:

This file includes five additional figures, namely, “Additional file 1: **Figure S1**. Panel displaying the different elements of the tagging trials”, “Additional file 1: **Figure S2**. Flow chart of the standardised method used to infer the fate date of individual *Octopus vulgaris*”, “Additional file 1: **Fig. S3**. Map showing the trajectories (based on centres of activity) of six *Octopus vulgaris* individuals and their movement towards the western edge of the array during the study”, “Additional file 1: **Figure S4**. Map of the mean speed of *Octopus vulgaris* over the whole study area, at day versus night based on estimated positions” and “Additional file 1: **Figure S5**. Summary of all the excursions to and from dens executed by tagged individuals based on positions data”.

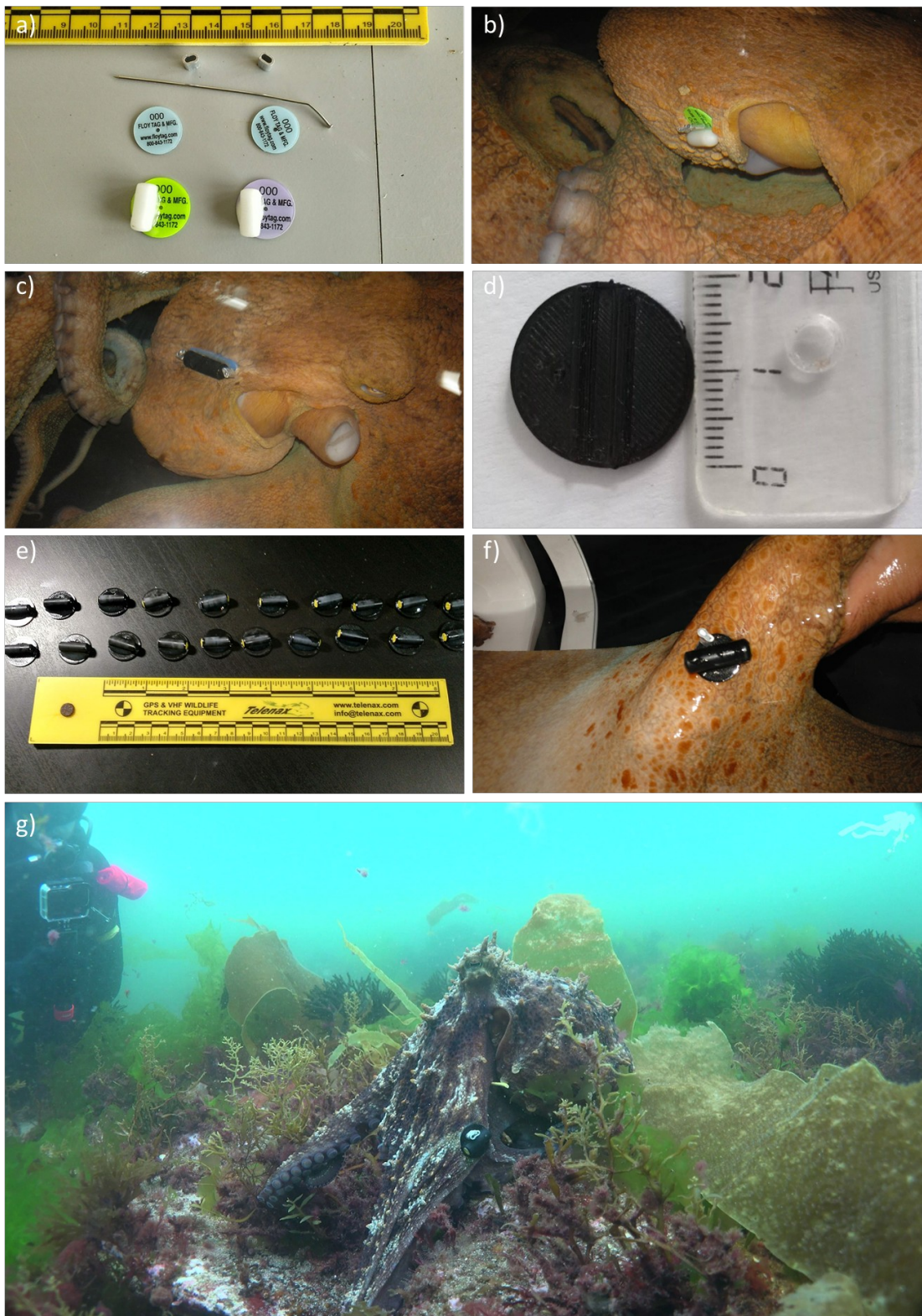


Figure S1. Panel displaying the different elements of the tagging trials, (a) Petersen discs with transmitter glued on one side, both sides of the Floy tag © were joined by a steel needle, (b, c) octopus tagged in the mantle, (d) custom 3D printed 2cm diameter disc with gutter carved for the inclusion of the transmitter, (e) transmitter attached on 3D printed discs with Araldite epoxy resin (two components), (f) octopus tagged on the third arm with two 2cm diameter 3D printed discs joined together by a steel nail, (g) Octopus specimen observed in normal behaviour, after being released by scuba divers close to den.

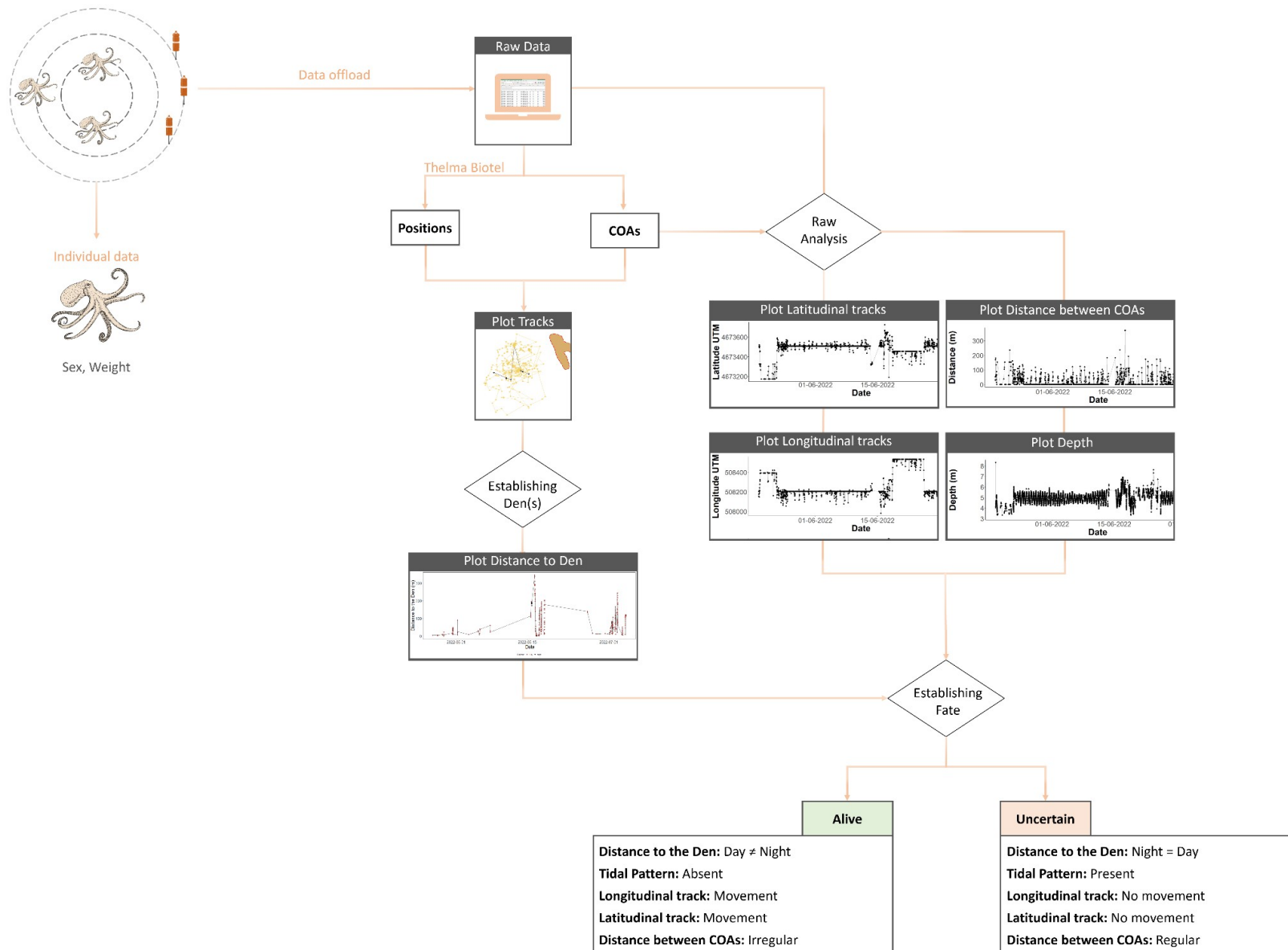


Figure S2. Flow chart of the standardised method used to infer the fate date of individual *Octopus vulgaris*.

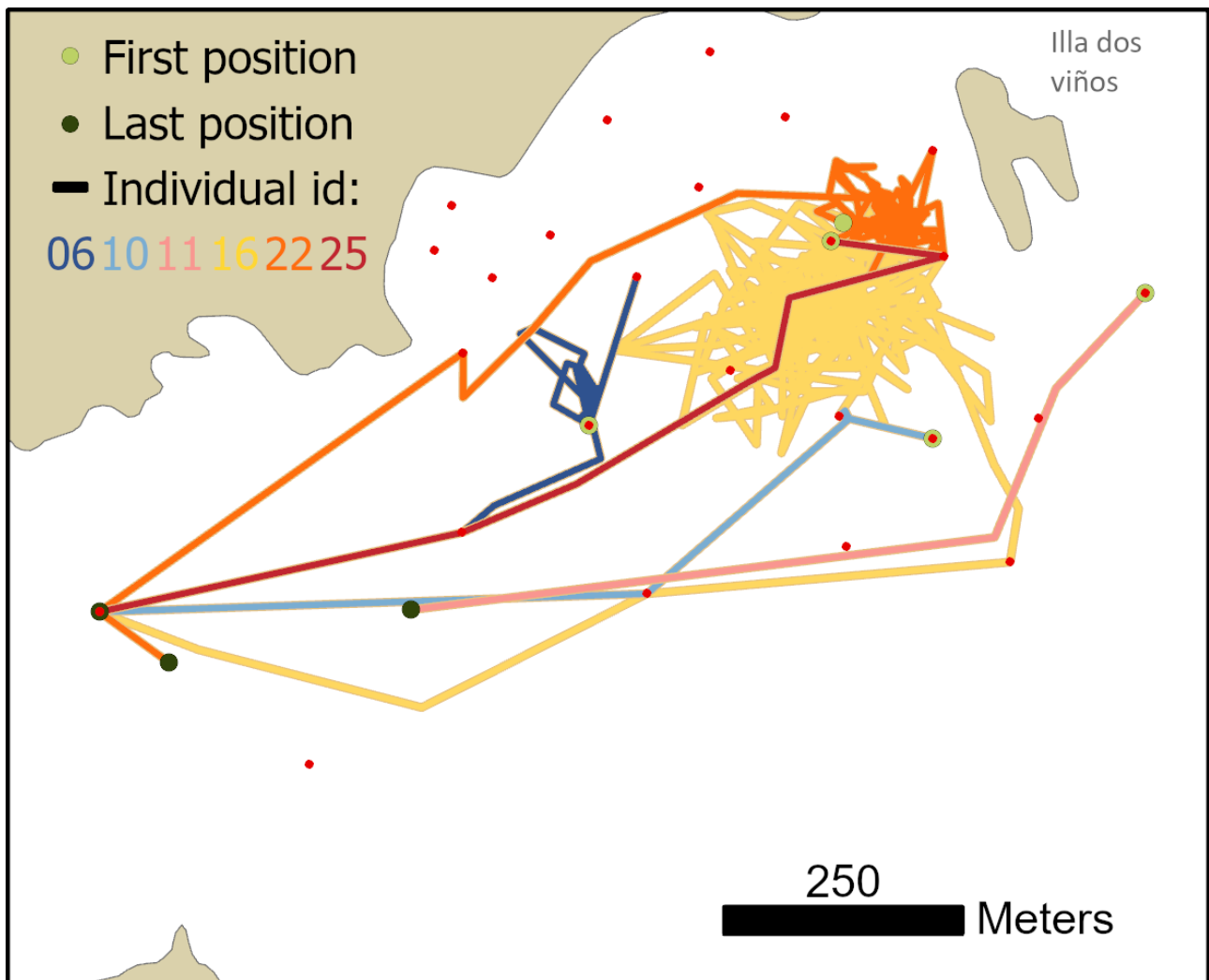


Figure S3. Map showing the trajectories (based on centres of activity) of six *Octopus vulgaris* individuals and their movement towards the western edge of the array during the study. Individuals 25, 22, 10 and 6 last COA were located at the same area (superposed on the map). Red dots: acoustic receivers.

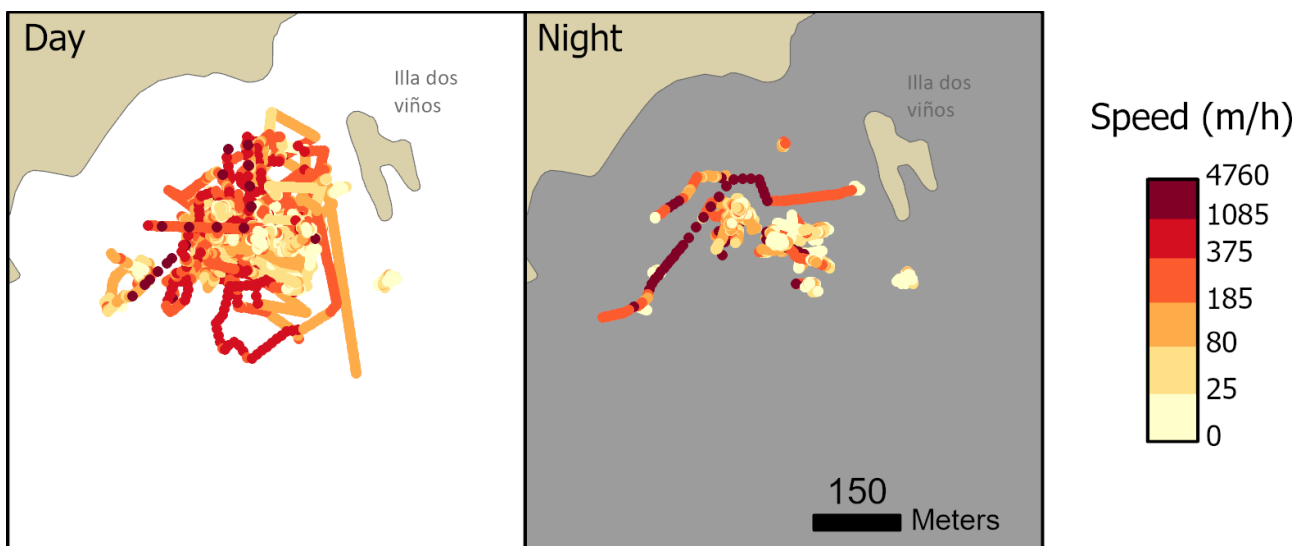


Figure S4. Map of the mean speed of *Octopus vulgaris* over the whole study area, at day versus night based on estimated positions.

Figure S5. Summary of all the excursions to and from dens executed by tagged individuals based on positions data.

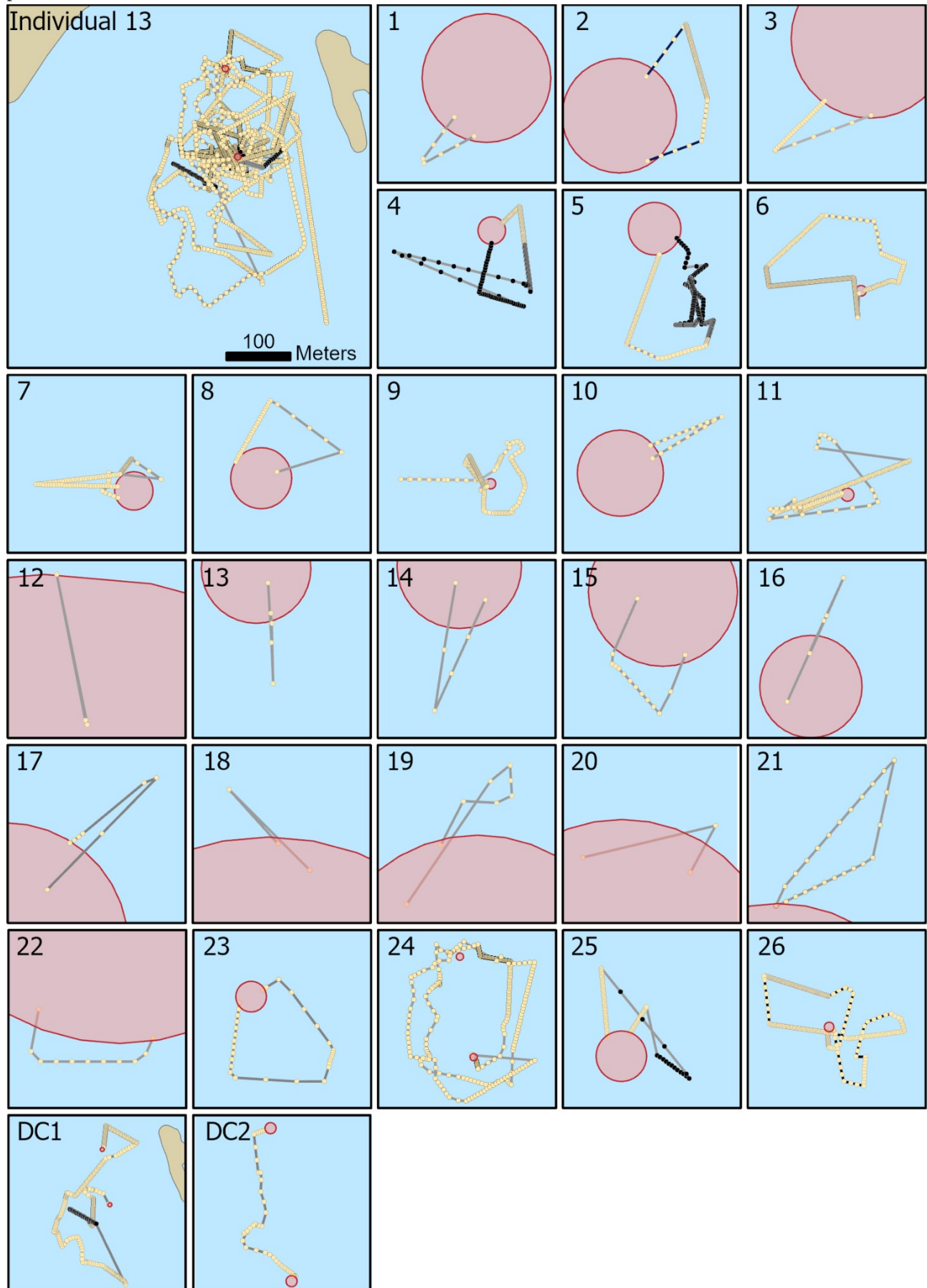


Figure S5.1 Summary of all the excursions executed by the individual 13 based on position. Red circle correspond to the den (5m radius), each panel correspond to an excursion. DC: den change.

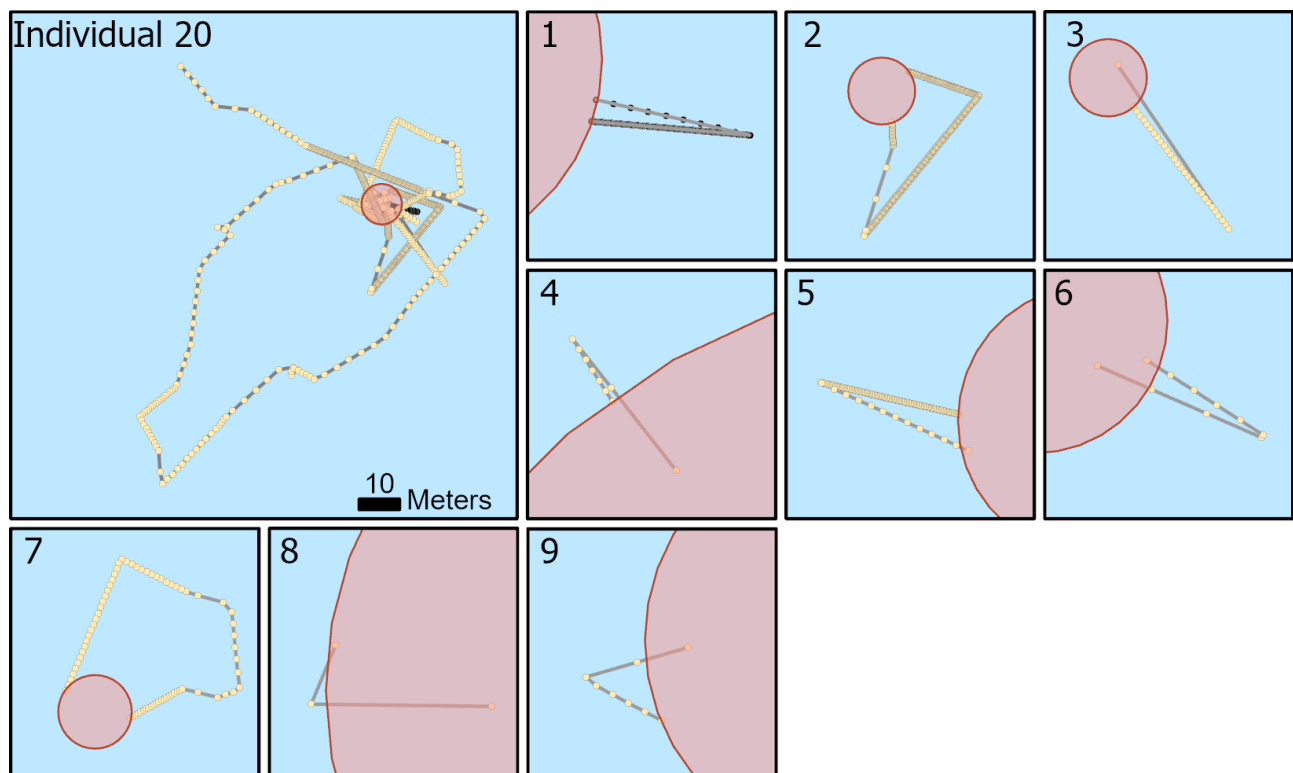


Figure S5.2 Summary of all the excursions executed by the individual 20 based on PINPOINT position. Red circle correspond to the den (5m radius), each panel correspond to an excursion.

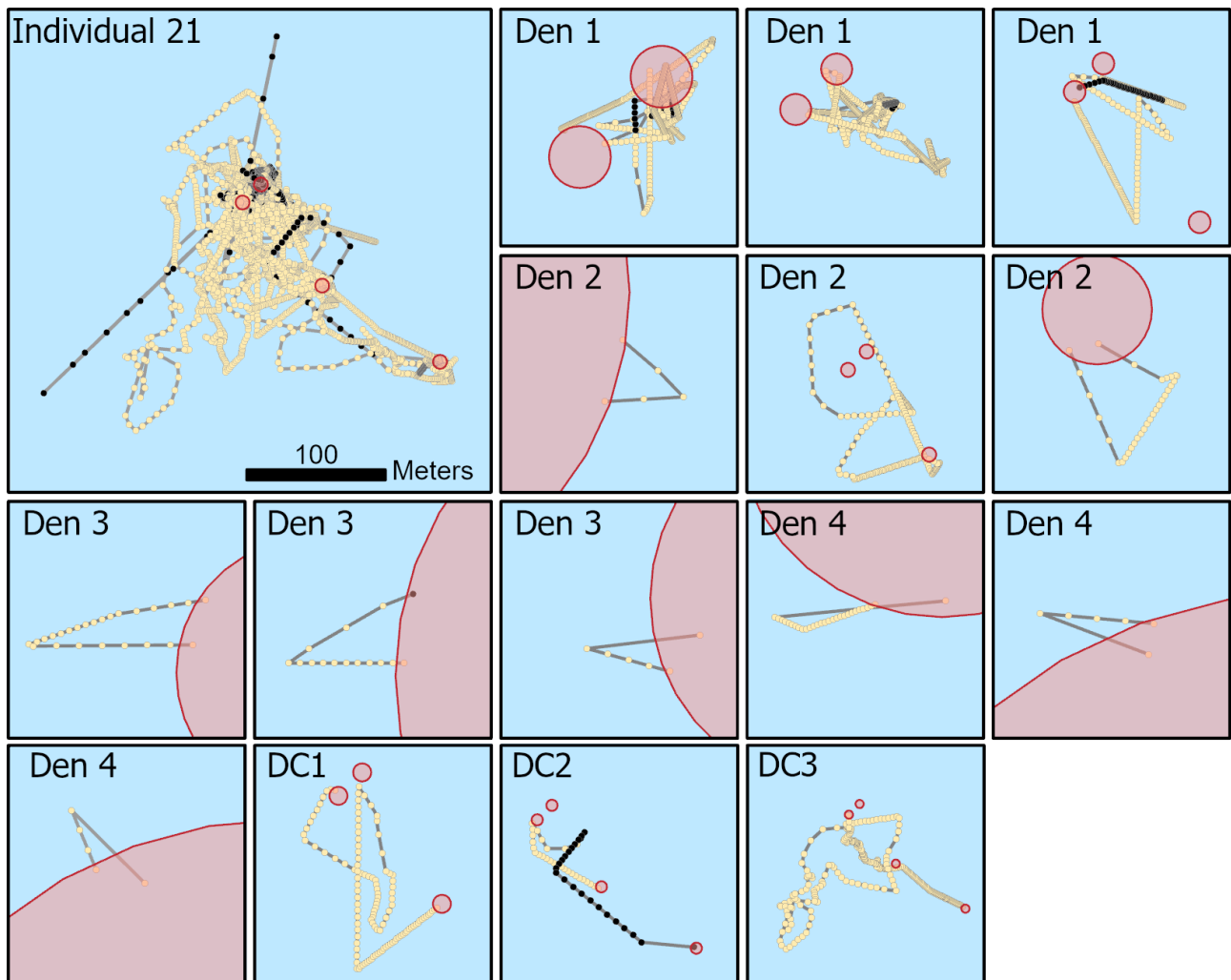


Figure S5.3 Summary of the excursions executed by the individual 21 based on PINPOINT position. Red circle corresponds to the den (5m radius), each panel correspond to an excursion. DC: den change. Since individual 21 has 633 excursions we only represented three out of each den and three of the den changes.

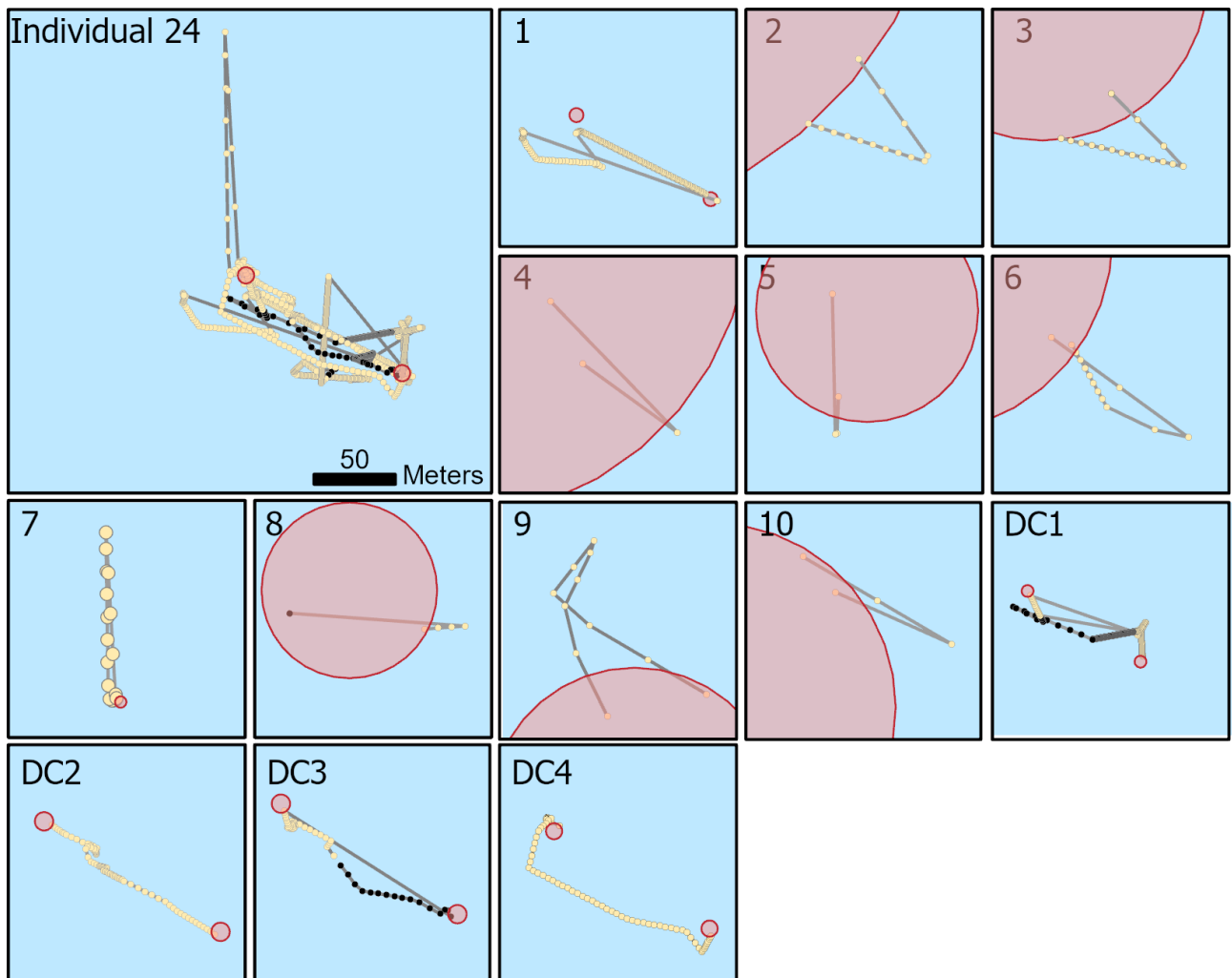


Figure S5.4 Summary of all the excursions executed by the individual 24 based on PINPOINT position. Red circle correspond to the den (5m radius), each panel correspond to an excursion. DC: den change.

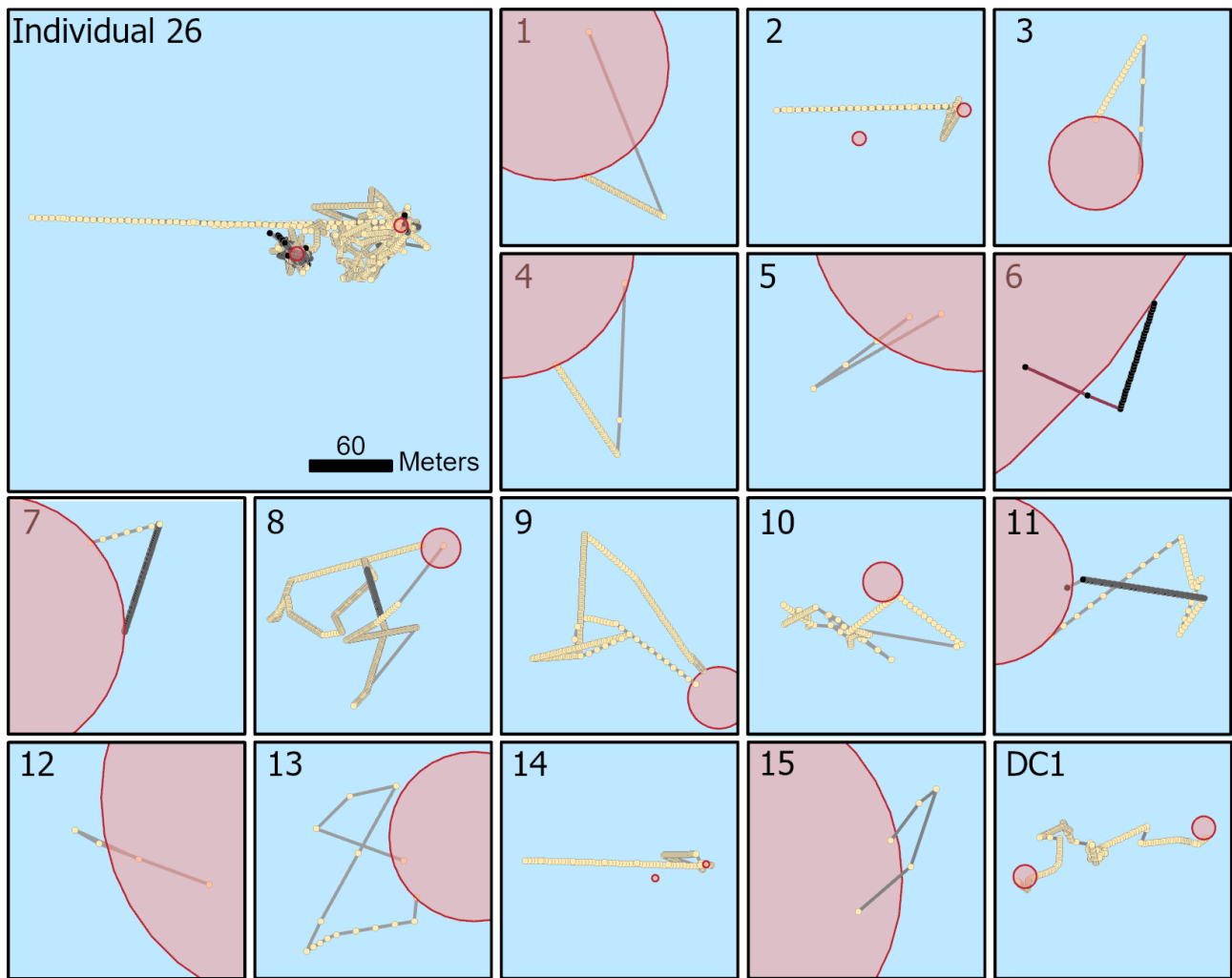


Figure S5.5 Summary of the excursions executed by the individual 26 based on PINPOINT position. Red circle corresponds to the den (5m radius), each panel correspond to an excursion. DC: den change. Since individual 26 has 119 excursions, we only represented the first 15 as well as the den change.