**Appendix I**

Photograph indicating the measurements collected to calculate the mean social distance (SD) between guineafowl in flocks. A = flock spread; B = scale. The size of the flock below equates to eight birds (in a straight line).

**A picture containing text, water, outdoor

Description automatically generated**

**Appendix II**.Measurements (obtained from a livestream webcam as reported on the computer screen) used to determine the social distance between guineafowl in GROUP. S = spread in mm (two farthest guineafowl in a straight line – see Appendix II); scale (mm) = broadside size of a guineafowl on the screen; GROUP size = the number of birds in a straight (horizontal) line through the group (for the sake of clarity, residual birds in front of, or behind, the line of the group were excluded). Constant = broadside length of a live bird (0.350 m) or frontal breadth (0.175 m) of a drinking bird. Data were ordered in this table based on habitat (scrub or open) and activity (huddling, sunning, water drinking), instead of on date of observation.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |
| Date | Time | Spread (s) | Scale | Group size | Social distance (SD) | Habitat | Constant |
| 28-Aug-20 | 17:45 | 160 | 4 | 35 | 0.0515 | Open plain | 0.35 |
| 30-Aug-20 | 08:00 | 100 | 4 | 25 | 0 | Open plain | 0.35 |
|  | 08:10 | 40 | 4 | 7 | 0.175 | Open plain | 0.35 |
|  |  | 169 | 8 | 7 | 0.824 | Open plain | 0.35 |
| 31-Aug-20 | 07:32 | 160 | 12 | 4 | 1.0889 | Open plain | 0.35 |
|  |  | 180 | 6 | 13 | 0.4958 | Open plain | 0.35 |
|  |  | 120 | 6 | 15 | 0.125 | Open plain | 0.35 |
|  |  | 140 | 6 | 15 | 0.2083 | Open plain | 0.35 |
|  |  | 200 | 5 | 20 | 0.3684 | Open plain | 0.35 |
|  |  | 70 | 2 | 20 | 0.2763 | Open plain | 0.35 |
|  |  | 60 | 2 | 20 | 0.1842 | Open plain | 0.35 |
|  |  | 40 | 4 | 20 | -0.1842 | Open plain | 0.35 |
|  |  | 110 | 4 | 35 | -0.0772 | Open plain | 0.35 |
| 08-Sep-20 | 07:20 | 110 | 8 | 15 | -0.0313 | Open plain | 0.35 |
|  |  | 50 | 3 | 4 | 1.4778 | Open plain | 0.35 |
|  |  | 180 | 3 | 25 | 0.5104 | Open plain | 0.35 |
|  |  | 180 | 3 | 30 | 0.3621 | Open plain | 0.35 |
|  | 16:00 | 41 | 4 | 10 | 0.0097 | Open plain | 0.35 |
|  |  | 140 | 3 | 30 | 0.2011 | Open plain | 0.35 |
| 01-Oct-20 | 17:00 | 40 | 10 | 3 | 0.175 | Open plain | 0.35 |
|  | 17:00 | 50 | 3 | 3 | 2.3917 | Open plain | 0.35 |
|  | 17:00 | 50 | 3 | 8 | 0.4333 | Open plain | 0.35 |
| 02-Oct-20 | 16:30 | 90 | 4.5 | 10 | 0.3889 | Open plain | 0.35 |
|  |  | 55 | 5 | 15 | -0.1 | Open plain | 0.35 |
| 04-Oct-20 | 09:00 | 40 | 6 | 4 | 0.3111 | Open plain | 0.35 |
|  | 09:10 | 12 | 6 | 4 | -0.2333 | Open plain | 0.35 |
|  | 17:00 | 82 | 4 | 13 | 0.2188 | Open plain | 0.35 |
|  |  | 30 | 7 | 10 | -0.2222 | Open plain | 0.35 |
|  |  | 200 | 7 | 8 | 1.0286 | Open plain | 0.35 |
| 18-Oct-20 | 18:00 | 45 | 3 | 10 | 0.1944 | Open plain | 0.35 |
|  |  | 80 | 2 | 10 | 1.1667 | Open plain | 0.35 |
|  |  | 25 | 2 | 12 | 0.0159 | Open plain | 0.35 |
|  |  | 28 | 2 | 12 | 0.0636 | Open plain | 0.35 |
|  | 17:00 | 15 | 4 | 2 | 0.6125 | Open plain | 0.35 |
| 21-Oct-20 | 15:45 | 40 | 2 | 5 | 1.3125 | Open plain | 0.35 |
|  | 16:00 | 90 | 3 | 10 | 0.7778 | Open plain | 0.35 |
|  |  | 50 | 8 | 2 | 1.4875 | Open plain | 0.35 |
|  |  | 28 | 2.5 | 7 | 0.245 | Open plain | 0.35 |
|  |  | 150 | 2.5 | 10 | 1.9444 | Open plain | 0.35 |
| 24-Oct-20 |  | 40 | 13 | 2 | 0.3769 | Open plain | 0.35 |
| 25 Oct-20 | 16:00 | 70 | 13 | 3 | 0.4173 | Open plain | 0.35 |
|  |  | 100 | 6 | 6 | 0.7467 | Open plain | 0.35 |
|  | 18:15 | 80 | 5 | 10 | 0.2333 | Open plain | 0.35 |
|  |  | 15 | 3 | 7 | -0.1167 | Open plain | 0.35 |
|  |  | 100 | 3.5 | 13 | 0.4542 | Open plain | 0.35 |
|  |  | 90 | 3 | 10 | 0.7778 | Open plain | 0.35 |
| 27-Oct-20 | 16:35 | 20 | 6 | 2 | 0.4667 | Open plain | 0.35 |
|  | 17:45 | 150 | 15 | 3 | 1.225 | Open plain | 0.35 |
|  |  | 55 | 4 | 10 | 0.1458 | Open plain | 0.35 |
|  |  | 45 | 4 | 8 | 0.1625 | Open plain | 0.35 |
| 27-Oct-20 | 16:35 | 20 | 6 | 2 | 0.4667 | Open plain | 0.35 |
| 28-Oct-20 | 17:45 | 150 | 15 | 3 | 1.225 | Open plain | 0.35 |
|  | 17:50 | 55 | 4 | 10 | 0.1458 | Open plain | 0.35 |
| 12-Nov-20 | 6:15 | 20 | 6 | 2 | 0.4667 | Open plain | 0.35 |
|  | 16:45 | 35 | 12 | 2 | 0.3208 | Open plain | 0.35 |
| 24-Nov-20 | 16:30 | 110 | 16 | 2 | 1.7063 | Open plain | 0.35 |
|  |  | 100 | 21 | 2 | 0.9667 | Open plain | 0.35 |
|  |  | 150 | 11 | 3 | 1.8614 | Open plain | 0.35 |
|  |  | 120 | 6 | 3 | 2.975 | Open plain | 0.35 |
|  |  | 90 | 7 | 2 | 3.8 | Open plain | 0.35 |
| 25-Nov-20 | 17:45 | 10 | 3 | 2 | 0.4667 | Open plain | 0.35 |
|  | 17:00 | 36 | 3.5 | 2 | 2.9 | Open plain | 0.35 |
|  | 17:15 | 38 | 6 | 4 | 0.2722 | Open plain | 0.35 |
| 27-Nov-20 | 17:00 | 70 | 2 | 2 | 11.55 | Open plain | 0.35 |
|  |  | 30 | 5 | 2 | 1.4 | Open plain | 0.35 |
| 13-Feb-21 | 18:15 | 130 | 6 | 5 | 1.4583 | Open plain | 0.35 |
| 23-Feb-21 | 18:30 | 160 | 6 | 4 | 2.6444 | Open plain | 0.35 |
| 24-Mar-21 | 18:30 | 250 | 5 | 70 | -0.1014 | Open plain | 0.35 |
|  | 07:00 | 200 | 9 | 20 | 0.0409 | Open plain | 0.35 |
| 11-Apr-21 | 08:30 | 50 | 2.5 | 13 | 0.2042 | Open plain | 0.35 |
| 12-Apr-21 | 18:00 | 40 | 2 | 20 | 0 | Open plain | 0.35 |
| 20-Apr-21 | 15:50 | 22 | 7 | 2 | 0.4 | Open plain | 0.35 |
|  | 17:20 | 15 | 5 | 3 | 0 | Open plain | 0.35 |
| 21-Apr-21 | 17:30 | 120 | 2 | 3 | 9.975 | Open plain | 0.35 |
|  | 17:20 | 220 | 4 | 33 | 0.2406 | Open plain | 0.35 |
| 24-Apr-21 | 10:20 | 40 | 5 | 13 | -0.1458 | Open plain | 0.35 |
|  | 17:25 | 40 | 5 | 2 | 2.1 | Open plain | 0.35 |
| 26-Apr-21 | 07:30 | 300 | 25 | 25 | -0.1896 | Open plain | 0.35 |
|  | 17:30 | 15 | 4 | 6 | -0.1575 | Open plain | 0.35 |
|  | 17:45 | 100 | 4 | 24 | 0.0152 | Open plain | 0.35 |
|  | 17:05 | 45 | 2.5 | 15 | 0.075 | Open plain | 0.35 |
|  | 17:20 | 90 | 5 | 6 | 0.84 | Open plain | 0.35 |
|  | 17:50 | 30 | 2 | 20 | -0.0921 | Open plain | 0.35 |
|  | 17:55 | 70 | 6 | 9 | 0.1167 | Open plain | 0.35 |
|  | 17:55 | 150 | 5 | 35 | -0.0515 | Open plain | 0.35 |
|  | 18:00 | 60 | 5 | 8 | 0.2 | Open plain | 0.35 |
| 03-May-21 | 17:30 | 80 | 7 | 8 | 0.1714 | Open plain | 0.35 |
|  | 17:35 | 80 | 6 | 8 | 0.2667 | Open plain | 0.35 |
|  | 18:00 | 130 | 7 | 20 | -0.0263 | Open plain | 0.35 |
| 05-May-21 | 16:20 | 200 | 7 | 30 | -0.0172 | Open plain | 0.35 |
| 06-May-21 | 08:00 | 220 | 6 | 34 | 0.0283 | Open plain | 0.35 |
|  | 17:00 | 90 | 8 | 10 | 0.0486 | Open plain | 0.35 |
|  | 17:50 | 95 | 4 | 30 | -0.0754 | Open plain | 0.35 |
| 11-May-21 | 17:00 | 18 | 2.5 | 10 | -0.1089 | Open plain | 0.35 |
|  |  | 62 | 4 | 20 | -0.0829 | Open plain | 0.35 |
| 12-May-21 | 08:00 | 17 | 2.5 | 30 | -0.28 | Open plain | 0.35 |
|  |  | 48 | 2 | 12 | 0.3818 | Open plain | 0.35 |
|  | 16:30 | 85 | 9 | 6 | 0.2411 | Open plain | 0.35 |
|  |  | 200 | 11 | 10 | 0.3182 | Open plain | 0.35 |
|  |  | 80 | 10 | 8 | 0 | Open plain | 0.35 |
| 13-May-21 | 16:00 | 24 | 2.5 | 12 | -0.0764 | Open plain | 0.35 |
|  | 17:40 | 28 | 3 | 20 | -0.1965 | Open plain | 0.35 |
|  | 16:55 | 300 | 8 | 50 | -0.0893 | Open plain | 0.35 |
|  | 17:55 | 300 | 7 | 70 | -0.1377 | Open plain | 0.35 |
| 17-May-21 | 08:00 | 60 | 4 | 10 | 0.1944 | Open plain | 0.35 |
|  |  | 30 | 5 | 20 | -0.2579 | Open plain | 0.35 |
|  | 18:07 | 70 | 5 | 25 | -0.1604 | Open plain | 0.35 |
| 18-May-21 | 15:30 | 130 | 2.5 | 30 | 0.2655 | Open plain | 0.35 |
|  | 16:00 | 230 | 17 | 3 | 1.8426 | Open plain | 0.35 |
|  | 16:25 | 230 | 10 | 17 | 0.1313 | Open plain | 0.35 |
|  | 16:36 | 230 | 11 | 30 | -0.1097 | Open plain | 0.35 |
|  | 16:30 | 20 | 8 | 3 | -0.0875 | Open plain | 0.35 |
|  |  | 15 | 8 | 3 | -0.1969 | Open plain | 0.35 |
| 24-May-21 | 15:00 | 18 | 2.5 | 5 | 0.1925 | Open plain | 0.35 |
|  | 16:30 | 300 | 16 | 20 | -0.023 | Open plain | 0.35 |
|  | 16:45 | 300 | 4.5 | 40 | 0.2393 | Open plain | 0.35 |
|  | 17:45 | 300 | 6 | 35 | 0.1544 | Open plain | 0.35 |
|  | 17:58 | 60 | 7 | 18 | -0.1941 | Open plain | 0.35 |
|  | 18:08 | 22 | 5 | 6 | -0.112 | Open plain | 0.35 |
|  | 07:45 | 17 | 4.5 | 10 | -0.242 | Open plain | 0.35 |
| 26-May-21 | 16:25 | 300 | 6.5 | 17 | 0.6377 | Open plain | 0.35 |
|  | 17:00 | 300 | 5.5 | 16 | 0.8994 | Open plain | 0.35 |
|  | 17:00 | 300 | 7 | 22 | 0.3476 | Open plain | 0.35 |
| 27-May-21 | 15:15 | 60 | 6 | 10 | 0 | Open plain | 0.35 |
|  | 16:30 | 170 | 7 | 13 | 0.3292 | Open plain | 0.35 |
|  | 17:35 | 300 | 4.5 | 15 | 1.2917 | Open plain | 0.35 |
| 28-May-21 | 15:20 | 27 | 2 | 10 | 0.1361 | Open plain | 0.35 |
|  | 17:30 | 150 | 2.5 | 53 | 0.0471 | Open plain | 0.35 |
| 30-May-21 | 08:00 | 300 | 5 | 13 | 1.3708 | Open plain | 0.35 |
|  | 09:00 | 300 | 10 | 10 | 0.7778 | Open plain | 0.35 |
|  | 15:00 | 300 | 4.5 | 8 | 2.9333 | Open plain | 0.35 |
|  | 17:20 | 300 | 6 | 32 | 0.2032 | Open plain | 0.35 |
|  | 17:25 | 300 | 4 | 60 | 0.089 | Open plain | 0.35 |
| 31-May-21 | 07:15 | 230 | 5 | 9 | 1.6188 | Open plain | 0.35 |
|  | 08:00 | 110 | 10 | 20 | -0.1658 | Open plain | 0.35 |
|  | 08:00 | 58 | 9 | 22 | -0.2593 | Open plain | 0.35 |
|  | 08:30 | 48 | 4 | 10 | 0.0778 | Open plain | 0.35 |
|  | 09:00 | 230 | 6 | 7 | 1.8278 | Open plain | 0.35 |
|  | 14:30 | 300 | 5 | 28 | 0.4148 | Open plain | 0.35 |
|  | 15:25 | 68 | 4 | 9 | 0.35 | Open plain | 0.35 |
|  | 16:50 | 300 | 6 | 45 | 0.0398 | Open plain | 0.35 |
| 01-Jun-21 | 06:30 | 140 | 3 | 72 | -0.1249 | Open plain | 0.35 |
|  | 08:10 | 150 | 6 | 17 | 0.175 | Open plain | 0.35 |
| 03-Jun-21 | 08:30 | 135 | 4 | 10 | 0.9236 | Open plain | 0.35 |
|  | 16:00 | 150 | 6 | 20 | 0.0921 | Open plain | 0.35 |
|  | 17:10 | 300 | 6 | 3 | 8.225 | Open plain | 0.35 |
| 04-Jun-21 | 06:40 | 24 | 2 | 20 | -0.1474 | Open plain | 0.35 |
|  | 07:50 | 300 | 15 | 21 | -0.0175 | Open plain | 0.35 |
|  | 15:25 | 300 | 6 | 25 | 0.3646 | Open plain | 0.35 |
|  | 16:35 | 300 | 7 | 36 | 0.0686 | Open plain | 0.35 |
| 10-Jun-21 | 15:45 | 300 | 3 | 40 | 0.5385 | Open plain | 0.35 |
|  | 16:15 | 240 | 3 | 50 | 0.2143 | Open plain | 0.35 |
| 11-Jun-21 | 07:27 | 50 | 5 | 7 | 0.175 | Open plain | 0.35 |
|  | 13:40 | 35 | 4 | 3 | 1.0063 | Open plain | 0.35 |
|  | 13:50 | 55 | 5 | 13 | -0.0583 | Open plain | 0.35 |
|  |  | 300 | 6 | 20 | 0.5526 | Open plain | 0.35 |
|  | 09:00 | 300 | 4.5 | 20 | 0.8596 | Open plain | 0.35 |
|  |  | 300 | 4.5 | 60 | 0.0395 | Open plain | 0.35 |
|  | 17:00 | 300 | 20 | 6 | 0.63 | Open plain | 0.35 |
|  | 17:30 | 300 | 8 | 35 | 0.0257 | Open plain | 0.35 |
| 15-Jun-21 | 06:45 | 300 | 5 | 60 | 0 | Open plain | 0.35 |
|  |  | 220 | 4.5 | 15 | 0.8472 | Open plain | 0.35 |
|  | 08:20 | 150 | 6 | 10 | 0.5833 | Open plain | 0.35 |
|  | 15:20 | 120 | 2 | 25 | 0.5104 | Open plain | 0.35 |
|  | 16:05 | 300 | 9 | 4 | 3.4222 | Open plain | 0.35 |
|  | 16:50 | 300 | 5 | 29 | 0.3875 | Open plain | 0.35 |
| 22-Jun-21 | 16:15 | 300 | 2 | 60 | 0.5339 | Open plain | 0.35 |
|  | 16:50 | 300 | 7 | 11 | 1.115 | Open plain | 0.35 |
| 23-Jun-21 | 08:20 | 300 | 4 | 19 | 1.0889 | Open plain | 0.35 |
|  | 15:00 | 150 | 4.5 | 30 | 0.0402 | Open plain | 0.35 |
|  |  | 220 | 10 | 12 | 0.3182 | Open plain | 0.35 |
| 24-Jun-21 | 17:35 | 70 | 3 | 29 | -0.0708 | Open plain | 0.35 |
| 26-Jun-21 | 08:30 | 300 | 5 | 17 | 0.9406 | Open plain | 0.35 |
|  | 14:00 | 70 | 2.5 | 16 | 0.28 | Open plain | 0.35 |
|  | 16:30 | 300 | 2 | 70 | 0.4058 | Open plain | 0.35 |
|  | 17:40 | 300 | 6 | 8 | 2.1 | Open plain | 0.35 |
| 29-Jun-21 | 08:30 | 140 | 4 | 6 | 2.03 | Open plain | 0.35 |
|  | 12:45 | 140 | 3 | 21 | 0.4492 | Open plain | 0.35 |
|  |  | 90 | 4 | 20 | 0.0461 | Open plain | 0.35 |
|  | 16:15 | 300 | 2.5 | 40 | 0.7179 | Open plain | 0.35 |
|  | 08:10 | 300 | 4 | 35 | 0.4118 | Open plain | 0.35 |
|  | 16:10 | 300 | 4 | 25 | 0.7292 | Open plain | 0.35 |
| 01-Jul-21 | 06:50 | 300 | 10 | 25 | 0.0729 | Open plain | 0.35 |
|  | 07:08 | 300 | 10 | 11 | 0.665 | Open plain | 0.35 |
|  | 14:09 | 35 | 4.5 | 9 | -0.0535 | Open plain | 0.35 |
|  | 17:37 | 55 | 5 | 10 | 0.0389 | Open plain | 0.35 |
|  |  | 8 | 2 | 4 | 0 | Open plain | 0.35 |
|  | 15:00 | 150 | 4 | 3 | 6.0375 | Open plain | 0.35 |
|  | 15:50 | 300 | 7 | 5 | 3.3125 | Open plain | 0.35 |
|  | 16:45 | 300 | 7 | 33 | 0.1078 | Open plain | 0.35 |
|  | 17:20 | 300 | 6.5 | 16 | 0.7036 | Open plain | 0.35 |
| 07-Jul-21 | 15:40 | 130 | 5 | 34 | -0.0848 | Open plain | 0.35 |
|  |  | 300 | 4.5 | 44 | 0.1845 | Open plain | 0.35 |
|  | 15:00 | 200 | 6 | 3 | 5.3083 | Open plain | 0.35 |
|  | 15:05 | 110 | 5 | 6 | 1.12 | Open plain | 0.35 |
| 09-Jul-21 |  | 55 | 2.5 | 9 | 0.5688 | Open plain | 0.35 |
|  | 09:00 | 65 | 2 | 6 | 1.855 | Open plain | 0.35 |
|  | 10:00 | 95 | 2 | 25 | 0.3281 | Open plain | 0.35 |
|  |  | 50 | 3 | 30 | -0.1609 | Open plain | 0.35 |
|  | 17:30 | 300 | 7 | 33 | 0.1078 | Open plain | 0.35 |
| 10-Jul-21 | 15:30 | 110 | 3 | 20 | 0.307 | Open plain | 0.35 |
| 11-Jul-21 | 16:10 | 60 | 2 | 10 | 0.7778 | Open plain | 0.35 |
| 12-Jul-21 |  | 200 | 2 | 70 | 0.1522 | Open plain | 0.35 |
|  | 16:00 | 300 | 4 | 20 | 1.0132 | Open plain | 0.35 |
|  | 14:10 | 300 | 7 | 18 | 0.5118 | Open plain | 0.35 |
|  | 16:45 | 300 | 4.5 | 40 | 0.2393 | Open plain | 0.35 |
| 14-Jul-21 | 08:15 | 120 | 10 | 30 | -0.2172 | Open plain | 0.35 |
|  | 11:20 | 130 | 2 | 16 | 1.1433 | Open plain | 0.35 |
| 15-Jul-21 | 14:20 | 120 | 2 | 3.5 | 7.91 | Open plain | 0.35 |
|  | 16:30 | 140 | 3 | 23 | 0.3765 | Open plain | 0.35 |
|  | 17:40 | 150 | 6 | 21 | 0.07 | Open plain | 0.35 |
| 20-Jul-21 | 09:00 | 140 | 5 | 20 | 0.1474 | Open plain | 0.35 |
|  | 13:30 | 70 | 2 | 20 | 0.2763 | Open plain | 0.35 |
|  | 16:35 | 78 | 3.5 | 8 | 0.7143 | Open plain | 0.35 |
|  | 18:05 | 300 | 7 | 50 | -0.051 | Open plain | 0.35 |
|  | 14:00 | 120 | 2 | 15 | 1.125 | Open plain | 0.35 |
|  | 15:10 | 80 | 3 | 5 | 1.8958 | Open plain | 0.35 |
| 29-Jul-21 | 07:00 | 85 | 5 | 15 | 0.05 | Open plain | 0.35 |
|  | 14:00 | 90 | 5 | 11 | 0.245 | Open plain | 0.35 |
|  | 14:00 | 150 | 5 | 8 | 1.1 | Open plain | 0.35 |
| 03-Aug-21 | 15:20 | 150 | 10 | 7 | 0.4667 | Open plain | 0.35 |
|  | 08:10 | 60 | 4 | 8 | 0.35 | Open plain | 0.35 |
|  | 15:00 | 75 | 4 | 12 | 0.2148 | Open plain | 0.35 |
|  | 17:00 | 250 | 10 | 5 | 1.75 | Open plain | 0.35 |
|  | 17:25 | 130 | 4 | 5 | 2.4063 | Open plain | 0.35 |
| 06-Aug-21 | 06:45 | 150 | 7 | 11 | 0.365 | Open plain | 0.35 |
| 07-Aug-21 | 17:40 | 30 | 8 | 8 | -0.2125 | Open plain | 0.35 |
|  | 18:00 | 200 | 7 | 6 | 1.58 | Open plain | 0.35 |
| 09-Aug-21 | 16:30 | 150 | 3 | 7 | 2.5083 | Open plain | 0.35 |
|  |  | 300 | 5 | 8 | 2.6 | Open plain | 0.35 |
| 11-Aug-21 | 15:30 | 200 | 9 | 6 | 1.1356 | Open plain | 0.35 |
|  | 17:20 | 300 | 9 | 8 | 1.2667 | Open plain | 0.35 |
| 12-Aug-21 | 09:30 | 50 | 2.5 | 2 | 6.3 | Open plain | 0.35 |
|  | 10:15 | 150 | 4.5 | 10 | 0.9074 | Open plain | 0.35 |
|  | 13:15 | 135 | 3.5 | 6 | 2.28 | Open plain | 0.35 |
| 13-Aug-21 | 08:45 | 110 | 3 | 7 | 1.7306 | Open plain | 0.35 |
|  |  | 200 | 4 | 12 | 1.2091 | Open plain | 0.35 |
|  | 17:00 | 145 | 5 | 9 | 0.875 | Open plain | 0.35 |
|  |  | 75 | 2 | 14 | 0.6327 | Open plain | 0.35 |
|  | 15:40 | 300 | 5 | 11 | 1.715 | Open plain | 0.35 |
|  |  | 150 | 5 | 3 | 4.725 | Open plain | 0.35 |
|  | 16:30 | 300 | 4 | 8 | 3.35 | Open plain | 0.35 |
| 24-Aug-21 |  | 92 | 4.5 | 4 | 1.9185 | Open plain | 0.35 |
|  |  | 22 | 3 | 3 | 0.7583 | Open plain | 0.35 |
|  |  | 200 | 5 | 4 | 4.2 | Open plain | 0.35 |
| 27-Aug | 15:00 | 150 | 2 | 15 | 1.5 | Open plain | 0.35 |
|  | 16:00 | 200 | 6 | 8 | 1.2667 | Open plain | 0.35 |
| 29-Aug-21 | 16:15 | 200 | 5 | 4 | 4.2 | Open plain | 0.35 |
|  | 12:30 | 85 | 4 | 5 | 1.4219 | Open plain | 0.35 |
|  | 17:00 | 50 | 3 | 20 | -0.0614 | scrub | 0.35 |
| 03-Sep-20 | 08:00 | 65 | 6 | 6 | 0.3383 | scrub | 0.35 |
| 04-Sep-20 | 08:00 | 30 | 4 | 10 | -0.0972 | scrub | 0.35 |
|  |  | 45 | 4 | 5 | 0.5469 | scrub | 0.35 |
|  | 17;00 | 70 | 5 | 5 | 0.7875 | scrub | 0.35 |
|  | 17:22 | 22 | 2 | 20 | -0.1658 | scrub | 0.35 |
| 10-Sep-20 | 17:30 | 30 | 3 | 10 | 0 | scrub | 0.35 |
| 30-Sep-20 | 17:00 | 18 | 6 | 6 | -0.21 | scrub | 0.35 |
|  |  | 20 | 4 | 3 | 0.35 | scrub | 0.35 |
|  |  | 50 | 4 | 5 | 0.6563 | scrub | 0.35 |
|  |  | 40 | 4 | 6 | 0.28 | scrub | 0.35 |
|  |  | 25 | 5 | 4 | 0.1167 | scrub | 0.35 |
|  |  | 31 | 7 | 2 | 0.85 | scrub | 0.35 |
|  |  | 30 | 3 | 5 | 0.4375 | scrub | 0.35 |
| 26-Oct-20 | 8:00 | 28 | 4 | 4 | 0.35 | scrub | 0.35 |
|  |  | 34 | 4 | 4 | 0.525 | scrub | 0.35 |
| 02-Dec-20 | 16:00 | 30 | 6 | 2 | 1.05 | scrub | 0.35 |
| 14-Apr-21 | 08:00 | 50 | 4 | 12 | 0.0159 | scrub | 0.35 |
|  |  | 40 | 4 | 10 | 0 | scrub | 0.35 |
|  |  | 35 | 5 | 12 | -0.1591 | scrub | 0.35 |
|  |  | 120 | 7 | 30 | -0.1552 | scrub | 0.35 |
|  | 17:30 | 18 | 3 | 18 | -0.2471 | scrub | 0.35 |
|  | 08:00 | 85 | 4 | 4 | 2.0125 | scrub | 0.35 |
|  | 17:33 | 80 | 4 | 4 | 1.8667 | scrub | 0.35 |
| 29-Apr-21 | 07:35 | 85 | 7 | 11 | 0.04 | scrub | 0.35 |
|  | 16:15 | 25 | 2.5 | 15 | -0.125 | scrub | 0.35 |
|  | 07:06 | 44 | 5 | 5 | 0.3325 | scrub | 0.35 |
|  | 08:30 | 35 | 4 | 10 | -0.0486 | scrub | 0.35 |
|  | 09:50 | 25 | 4 | 3 | 0.5688 | scrub | 0.35 |
|  | 15:00 | 83 | 6 | 7 | 0.3986 | scrub | 0.35 |
|  | 11:20 | 10 | 2.5 | 6 | -0.14 | scrub | 0.35 |
|  | 07:15 | 140 | 8 | 13 | 0.1313 | scrub | 0.35 |
|  | 08:30 | 45 | 2.5 | 8 | 0.5 | scrub | 0.35 |
|  | 15:50 | 25 | 4 | 15 | -0.2188 | scrub | 0.35 |
| 06-Jul-21 | 07:00 | 11 | 3.5 | 4 | -0.1 | scrub | 0.35 |
|  | 15:40 | 20 | 4 | 3 | 0.35 | scrub | 0.35 |
|  | 08:40 | 250 | 7 | 9 | 1.1688 | scrub | 0.35 |
|  | 16:40 | 20 | 3.5 | 6 | -0.02 | scrub | 0.35 |
| 13-Jul-21 | 10:00 | 13 | 3.5 | 6 | -0.16 | scrub | 0.35 |
|  | 11:00 | 16 | 3.5 | 7 | -0.1417 | scrub | 0.35 |
|  | 09:00 | 13 | 4 | 6 | -0.1925 | scrub | 0.35 |
|  |  | 27 | 3 | 10 | -0.0389 | scrub | 0.35 |
|  | 11:30 | 67 | 3.5 | 20 | -0.0158 | scrub | 0.35 |
| 25-Jul-21 | 07:30 | 28 | 2 | 20 | -0.1105 | scrub | 0.35 |
| 26-Jul-21 | 12:00 | 30 | 4.5 | 9 | -0.1021 | scrub | 0.35 |
|  | 12:30 | 29 | 3 | 10 | -0.013 | scrub | 0.35 |
|  | 14:00 | 33 | 4 | 5 | 0.2844 | scrub | 0.35 |
| 30-Jul-21 | 08:05 | 170 | 4 | 8 | 1.725 | scrub | 0.35 |
| 01-Aug-21 | 13:15 | 19 | 4 | 4 | 0.0875 | scrub | 0.35 |
| 02-Aug-21 | 12:20 | 33 | 4 | 4 | 0.4958 | scrub | 0.35 |
|  | 15:00 | 49 | 4 | 16 | -0.0875 | scrub | 0.35 |
| 04-Aug-21 | 08:00 | 25 | 2.5 | 10 | 0 | scrub | 0.35 |
| 10-Aug-21 | 10:45 | 65 | 4 | 4 | 1.4292 | scrub | 0.35 |
|  |  | 80 | 2.5 | 8 | 1.2 | scrub | 0.35 |
|  | 18:10 | 60 | 10 | 4 | 0.2333 | scrub | 0.35 |
| 15-Aug-21 | 07:30 | 22 | 4 | 6 | -0.035 | scrub | 0.35 |
|  | 10:00 | 73 | 3.5 | 6 | 1.04 | scrub | 0.35 |
|  | 11:00 | 58 | 2 | 10 | 0.7389 | scrub | 0.35 |
| 16-Aug-21 | 08:35 | 35 | 4 | 6 | 0.1925 | scrub | 0.35 |
| 17-Aug-21 | 10:30 | 90 | 5 | 5 | 1.1375 | scrub | 0.35 |
|  | 14:00 | 40 | 2 | 8 | 0.6 | scrub | 0.35 |
| 18-Aug-21 | 07:00 | 22 | 3 | 4 | 0.3889 | scrub | 0.35 |
|  | 07:50 | 65 | 3 | 9 | 0.5542 | scrub | 0.35 |
|  | 07:55 | 28 | 3.5 | 8 | 0 | scrub | 0.35 |
|  | 14:45 | 72 | 3 | 4 | 2.3333 | scrub | 0.35 |
|  |  | 34 | 3 | 4 | 0.8556 | scrub | 0.35 |
| 23-Aug-21 | 12:00 | 20 | 3 | 10 | -0.1296 | scrub | 0.35 |
|  | 16:15 | 60 | 3 | 20 | 0 | scrub | 0.35 |
|  |  | 50 | 3 | 6 | 0.7467 | scrub | 0.35 |
|  |  | 100 | 3 | 10 | 0.9074 | scrub | 0.35 |
| 05-Nov-21 | 16:25 | 35 | 5 | 2 | 1.75 | scrub | 0.35 |
|  | 17:00 | 35 | 11 | 2 | 0.4136 | scrub | 0.35 |
|  |  | 27 | 2.5 | 2 | 3.08 | scrub | 0.35 |
| 01-Apr-21 | 06:30 | 28 | 4 | 30 | -0.2776 | scrub | 0.35 |
|  | 06:33 | 60 | 3.4 | 30 | -0.1491 | scrub | 0.35 |
| 08-Apr-21 | 06:25 | 45 | 4 | 12 | -0.0239 | scrub | 0.35 |
|  |  | 150 | 6 | 15 | 0.25 | scrub | 0.35 |
|  | 07:30 | 130 | 6 | 32 | -0.1167 | scrub | 0.35 |
| 13-Apr-21 | 07:00 | 40 | 6 | 4 | 0.3111 | scrub | 0.35 |
|  | 17:45 | 75 | 6 | 10 | 0.0972 | scrub | 0.35 |
|  | 09:30 | 30 | 4 | 15 | -0.1875 | scrub | 0.35 |
|  |  | 77 | 4 | 15 | 0.1063 | scrub | 0.35 |
|  |  | 70 | 4 | 30 | -0.1509 | scrub | 0.35 |
| 01-May-21 | 06:30 | 22 | 3 | 9 | -0.0729 | scrub | 0.35 |
|  |  | 50 | 3 | 9 | 0.3354 | scrub | 0.35 |
|  |  | 82 | 4 | 27 | -0.0875 | scrub | 0.35 |
|  | 17:50 | 30 | 2.3 | 30 | -0.2046 | scrub | 0.35 |
| 14-May-21 | 07:45 | 45 | 5 | 6 | 0.21 | scrub | 0.35 |
|  |  | 55 | 6 | 6 | 0.2217 | scrub | 0.35 |
|  |  | 63 | 6 | 6 | 0.315 | scrub | 0.35 |
|  |  | 75 | 7 | 15 | -0.1071 | scrub | 0.35 |
|  |  | 65 | 6 | 15 | -0.1042 | scrub | 0.35 |
|  | 08:00 | 80 | 6 | 18 | -0.0961 | scrub | 0.35 |
|  | 16:45 | 52 | 2.5 | 20 | 0.0147 | scrub | 0.35 |
| 15-May-21 | 08:00 | 100 | 4 | 20 | 0.0921 | scrub | 0.35 |
|  |  | 17 | 2.5 | 12 | -0.1655 | scrub | 0.35 |
|  | 17:15 | 150 | 9 | 22 | -0.0889 | scrub | 0.35 |
|  | 16:55 | 135 | 7 | 25 | -0.0833 | scrub | 0.35 |
| 25-May-21 | 07:00 | 110 | 6.5 | 9 | 0.3466 | scrub | 0.35 |
|  | 15:35 | 35 | 2.5 | 15 | -0.025 | scrub | 0.35 |
|  | 15:40 | 62 | 2.1 | 35 | -0.0564 | scrub | 0.35 |
|  | 17:30 | 65 | 4 | 10 | 0.2431 | scrub | 0.35 |
|  | 16:45 | 150 | 4 | 40 | -0.0224 | scrub | 0.35 |
|  | 08:20 | 70 | 4 | 10 | 0.2917 | scrub | 0.35 |
|  | 07:30 | 40 | 3 | 8 | 0.2667 | scrub | 0.35 |
| 02-Jun-21 |  | 38 | 9 | 5 | -0.0681 | scrub | 0.35 |
|  | 15:10 | 12 | 2 | 5 | 0.0875 | scrub | 0.35 |
|  |  | 25 | 2.5 | 8 | 0.1 | scrub | 0.35 |
|  | 12:00 | 22 | 4 | 3 | 0.4375 | scrub | 0.35 |
|  | 16:45 | 56 | 5 | 8 | 0.16 | scrub | 0.35 |
|  | 15:15 | 120 | 4.5 | 13 | 0.3986 | scrub | 0.35 |
| 12-Jun-21 | 07:00 | 31 | 4 | 18 | -0.211 | scrub | 0.35 |
|  | 07:15 | 48 | 4 | 5 | 0.6125 | scrub | 0.35 |
| 13-Jun-21 | 07:35 | 88 | 3.5 | 35 | -0.1015 | scrub | 0.35 |
| 14-Jun-21 | 06:40 | 67 | 4 | 35 | -0.1879 | scrub | 0.35 |
|  | 06:55 | 85 | 4 | 20 | 0.023 | scrub | 0.35 |
|  |  | 77 | 3.5 | 14 | 0.2154 | scrub | 0.35 |
| 16-Jun-21 | 08:00 | 80 | 6 | 6 | 0.5133 | scrub | 0.35 |
|  | 08:10 | 105 | 6 | 13 | 0.1313 | scrub | 0.35 |
| 28-Jun-21 | 16:40 | 11 | 2.5 | 5 | -0.0525 | scrub | 0.35 |
|  | 15:40 | 35 | 2.5 | 6 | 0.56 | scrub | 0.35 |
| 30-Jun-21 | 08:00 | 140 | 12 | 8 | 0.1833 | scrub | 0.35 |
|  | 15:00 | 75 | 4 | 12 | 0.2148 | scrub | 0.35 |
|  | 15:30 | 55 | 5 | 8 | 0.15 | scrub | 0.35 |
|  | 17:25 | 30 | 4 | 16 | -0.1983 | scrub | 0.35 |
|  | 07:15 | 70 | 4 | 7 | 0.6125 | scrub | 0.35 |
|  | 15:10 | 30 | 4 | 10 | -0.0972 | scrub | 0.35 |
|  | 15:15 | 120 | 3.5 | 15 | 0.4821 | scrub | 0.35 |
|  |  | 28 | 4 | 12 | -0.1591 | scrub | 0.35 |
| 08-Jul-21 | 08:30 | 12 | 2 | 8 | -0.1 | scrub | 0.35 |
|  | 08:33 | 95 | 2 | 14 | 0.9019 | scrub | 0.35 |
|  | 15:30 | 35 | 2 | 9 | 0.3719 | scrub | 0.35 |
| 16-Jul-21 | 07:40 | 25 | 4.5 | 13 | -0.2171 | scrub | 0.35 |
|  | 09:15 | 24 | 3 | 10 | -0.0778 | scrub | 0.35 |
|  | 12:20 | 150 | 4 | 10 | 1.0694 | scrub | 0.35 |
| 18-Jul-21 | 07:00 | 32 | 2.6 | 9 | 0.1447 | scrub | 0.35 |
| 19-Jul-21 | 09:00 | 25 | 3 | 12 | -0.1167 | scrub | 0.35 |
|  | 09:30 | 85 | 3 | 13 | 0.4472 | scrub | 0.35 |
|  | 13:45 | 150 | 9 | 13 | 0.1069 | scrub | 0.35 |
| 24-Jul-21 | 08:00 | 90 | 3 | 20 | 0.1842 | scrub | 0.35 |
|  | 10:30 | 56 | 3.5 | 5 | 0.9625 | scrub | 0.35 |
| 27-Jul-21 | 08:45 | 50 | 3.5 | 13 | 0.0375 | scrub | 0.35 |
| 28-Jul-21 |  | 45 | 4.5 | 12 | -0.0636 | scrub | 0.35 |
|  | 14:00 | 18 | 3 | 8 | -0.1 | scrub | 0.35 |
| 05-Aug-21 | 14:00 | 85 | 17 | 10 | -0.1944 | huddle | 0.35 |
|  | 13:15 | 65 | 5 | 10 | 0.1167 | huddle | 0.35 |
|  | 17:00 | 35 | 6 | 7 | -0.0681 | huddle | 0.35 |
|  | 09:45 | 20 | 3.5 | 6 | -0.02 | huddle | 0.35 |
|  |  | 130 | 4 | 25 | 0.1094 | huddle | 0.35 |
| 25-Aug-21 | 17:50 | 150 | 15 | 11 | -0.035 | huddle | 0.35 |
| 30-Aug-21 | 18:05 | 150 | 3.5 | 30 | 0.1552 | huddle | 0.35 |
| 31-Aug-21 | 06:14 | 100 | 4 | 16 | 0.21 | huddle | 0.35 |
| 19-Apr-21 |  | 95 | 5 | 18 | 0.01 | drink | 0.175 |
| 18-Apr-21 |  | 200 | 9 | 12 | 0.166 | drink | 0.175 |
| 29-Apr-21 |  | 70 | 6 | 6 | 0.198 | drink | 0.175 |
| 02-May-21 |  | 45 | 4 | 6 | 0.183 | drink | 0.175 |
| 10-May-21 |  | 110 | 6 | 18 | 0.003 | drink | 0.175 |
| 04-Jun-21 |  | 25 | 4 | 7 | -0.021 | drink | 0.175 |
| 30-Jun-21 |  | 9 | 3 | 3 | 0 | drink | 0.175 |
| 28-Jul-21 |  | 200 | 11 | 10 | 0.15 | drink | 0.175 |
| 28-Jul-21 |  | 150 | 14 | 10 | 0.013 | drink | 0.175 |
| 01-Aug-21 |  | 73 | 9 | 8 | 0.002 | drink | 0.175 |
|  |  |  |  |  |  |  |  |

**Appendix III**.Guineafowl group sizes and descriptive statistics used to formulate a two-dimensional graph showing how group sizes varied during consecutive months and at various times of the day. The graph also allowed monthly and hourly mean group sizes to be formulated from March to August 2021.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | **6:00-7:000** | **7:00-8:00** | **8:00-9:00** | **9:00-10:00** | **10:00-11:00** | **11:00-12:00** | **12:00-13:00** | **13:00-14:00** | **14:00-15:00** | **15:00-16:00** | **16:00-17:00** | **17:00-18:00** | **18:00-19:00** |
| September | Mean |  | 14 | 4 |  |  |  |  |  | 10 |  |  | 16.12 | 20.5 |
|  | SD |  | 12.46 | 0 |  |  |  |  |  | 0 |  |  | 9.3 | 16.06 |
|  | Range |  | 4-25 | 2 |  |  |  |  |  | 1 |  |  | 3-40 | 10-50 |
|  | N | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 16 | 10 |
| October | Mean |  | 2 | 4.2 | 4 |  |  |  |  |  |  | 7 | 7.36 | 9.25 |
|  | SD |  | 0 | 0.44 | 0 |  |  |  |  |  |  | 3.89 | 3.5 | 1.5 |
|  | Range |  | 2 | 5 | 4 |  |  |  |  |  |  | 2-12 | 2-13 | 7-10 |
|  | N | 0 | 1 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 11 | 4 |
| November | Mean | 0 |  |  |  | 2 |  |  |  |  |  | 2 | 2 | 2.66 |
|  | SD |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Range |  |  |  |  | 2 |  |  |  |  |  | 1-3 | 2-3 | 2-4 |
|  | N | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 10 | 6 |
| December | Mean |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | SD |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Range |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| January | Mean |  |  |  |  |  | 1 |  |  |  |  |  |  |  |
|  | SD |  |  |  |  |  | 0 |  |  |  |  |  |  |  |
|  | Range |  |  |  |  |  | 1 |  |  |  |  |  |  |  |
|  | N | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| February | Mean |  |  |  |  |  |  |  |  |  |  |  |  | 4.33 |
|  | SD |  |  |  |  |  |  |  |  |  |  |  |  | 0.57 |
|  | Range | 0 | 0 |  |  |  |  |  |  |  |  |  |  | 4-5 |
|  | N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| March | Mean |  |  |  |  |  |  |  |  |  |  |  | 10 | 20.75 |
|  | SD |  |  |  |  |  |  |  |  |  |  |  | 13.67 | 32.91 |
|  | Range |  |  |  |  |  |  |  |  |  |  |  | 1-30 | 6-70 |
|  | N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 |
| April | Mean | 30 | 34 | 21.77 | 35 | 31.5 |  |  |  |  |  | 2 | 39.755 | 60.62 |
|  | SD |  | 30.25 | 15.19 | 7.07 | 26.16 |  |  |  |  |  |  | 25.42 | 34.47 |
|  | Range |  | 1-80 | 5-50 | 30-40 | 13-50 |  |  |  |  |  |  | 4-80 | 20-130 |
|  | N | 1 | 7 | 11 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 8 | 8 |
| May | Mean | 38.2 | 33.63 | 24.16 | 21 | 2 |  |  |  | 24.71 | 41.18 | 61.36 | 82.47 |  |
|  | SD | 49.72 | 20.13 | 22.89 | 22.89 |  |  |  |  | 26.86 | 26.94 | 43.74 | 41.84 |  |
|  | Range | 9-100 | 10-60 | 10-70 | 2-40 |  |  |  |  | 5-80 | 3-80 | 10-130 | 20-150 |  |
|  | N | 5 | 11 | 6 | 2 | 1 | 0 | 0 | 0 | 7 | 11 | 19 | 18 |  |
| June | Mean | 80.66 | 69.8 | 62.12 | 63.75 |  | 15 | 24.5 | 15.5 | 22.28 | 32.14 | 7.91 | 115 | 126.66 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | SD | 35.79 | 38.3 | 43.36 | 23.58 | 0 | 0 | 26.16 | 10.01 | 19.34 | 15.56 | 32.14 | 33.32 | 13.22 |
|  | Range | 50-120 | 18-120 | 10-100 | 30-85 |  |  | 6-43 |  | 6-60 | 10-40 | 35-130 | 70-140 | 100-150 |
|  | N | 3 | 10 | 8 | 4 | 0 | 1 | 2 | 2 | 7 | 7 | 12 | 14 | 9 |
| July | Mean | 62.35 | 34.4 | 16.33 | 12 | 17 | 8.2 | 11.6 | 29.83 | 39.5 | 48.75 | 108.18 | 59.5 |  |
|  | SD | 45.14 | 29.56 | 9.24 | 11.26 | 4.24 | 2.14 | 6.34 | 29.02 | 25.37 | 22.37 | 18.49 | 27.28 |  |
|  | Range | 4-135 | 8-100 | 4-30 | 5-25 | 14-20 | 5-10 | 3-20 | 7-80 | 10-90 | 10-90 | 100-130 | 22-100 |  |
|  | N | 14 | 10 | 9 | 3 | 2 | 5 | 5 | 12 | 10 | 12 | 16 | 7 |  |
| August | Mean | 34.3 | 25.9 | 15.62 | 8.87 | 10.21 | 6.33 | 5.24 | 13.43 | 13.02 | 14.04 | 11.07 | 27.13 | 28.47 |
|  | SD | 16.23 | 32.85 | 8.46 | 10.87 | 5.06 | 4.62 | 3.15 | 12.86 | 4.68 | 5.98 | 6.87 | 26.1 | 29.46 |
|  | Range | 16-55 | 4-80 | 7-35 | 1-35 | 4-20 | 2-15 | 2-10 | 6-35 | 7-20 | 4-25 | 7-25 | 7-100 | 2-100 |
|  | N | 5 | 5 | 7 | 8 | 7 | 6 | 6 | 6 | 11 | 10 | 14 | 17 | 14 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Appendix IV**.Guineafowl group sizes recorded in four sequential time slots during August 2021

Guineafowl flock sizes in the scrub and open habitat recorded simultaneously on different days and hours.The table below reflects the Mann–Whitney test results to compare mean flock sizes. (X1 to X4 represent the time slots in the Mann–Whitney test).

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| 07:00:00 (X1) | 09:00:00 (X2) | 16:00:00 (X3) | 18:00:00 (X4) |
| 30 | 2 | 7 | 80 |
| 2 | 22 | 20 | 7 |
| 7 | 3 | 30 | 8 |
| 4 | 4 | 30 | 90 |
| 5 | 2 | 40 | 4 |
| 55 | 2 | 80 | 20 |
| 6 | 2 | 10 | 10 |
| 40 | 11 | 15 | 10 |
| \*50 | 10 | 5 | 20 |
| 7 | 2 | 5 | 10 |
| 20 | 3 | 10 | 10 |
| 5 | 2 | 10 | 20 |
| 8 | 8 | 10 | 30 |
| 10 | 10 | 15 | 65 |
| 10 | 8 | 30 | 60 |
| 4 | 9 | 10 | 50 |
| 2 | 12 | 4 | 30 |
| 16 | 4 | 20 | 30 |
|  | 9 | 10 | 3 |
|  | 5 | 8 | 20 |
|  | 5 | 20 | 10 |
|  | 10 | 15 | 10 |
|  | 4 | 15 | 15 |
|  | 5 | 5 | 20 |
|  | 5 | 5 | 10 |
|  | 6 | 10 | 10 |
|  | 15 | 3 | 20 |
|  | 2 | 4 | 15 |
|  | 4 | 20 | 5 |
|  | 3 | 2 | 50 |
|  | 1 | 7 | 3 |
|  | 10 | 8 | 8 |
|  | 5 | 4 | 7 |
|  | 10 | 4 | 12 |
|  | 3 | 4 | 3 |
|  | 8 | 5 | 30 |
|  | 10 | 10 | 8 |
|  | 10 | 10 | 12 |
|  | 2 | 10 | 9 |
|  |  | 10 | 33 |
|  |  | 20 | 40 |
|  |  | 6 | 3 |
|  |  | 15 | 15 |
|  |  | 2 | 10 |
|  |  | 10 | 10 |
|  |  | 4 | 30 |
|  |  | 20 | 14 |
|  |  | 15 | 4 |
|  |  | 4 | 5 |
|  |  | 20 | 10 |
|  |  | 4 |  |
|  |  | 20 |  |
|  |  | 16 |  |
|  |  | 10 |  |
|  |  | 10 |  |
|  |  | 10 |  |
|  |  | 5 |  |
|  |  | 5 |  |
|  |  | 2 |  |
|  |  | 2 |  |
|  |  | 2 |  |
|  |  | 20 |  |
|  |  | 4 |  |
|  |  | 6 |  |
|  |  | 11 |  |
|  |  | 19 |  |
|  |  | 8 |  |
|  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Pair** | **Difference** | **H-statistic** | **Critical value** | **p-value** |
| 7:00 – 9:00 | 2.5 | 4.0178 | 6.2385 | 0.04502 |
| 7:00-16:00 | 2.5 | 0.001438 | 6.2385 | 0.9698 |
| 7:00-18:00 | 3.5 | 2.3829 | 6.2385 | 0.1227 |
| 9:00-16:00 | 5 | 11.4031 | 6.2385 | 0.0007332 |
| 9:00-16:00 | 6 | 23.9536 | 6.2385 | 9.87E-07 |
| 16:00-18:00 | 1 | 5.9015 | 6.2385 | 0.01513 |

**Appendix V**

Guineafowl group sizes in the scrub and open plain recorded simultaneously on different days and hours.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| |  |  |  |  | | --- | --- | --- | --- | |  | Time | Scrub | Open | | 25-Jul-21 | **12:15** | 20 |  | |  |  | 30 |  | |  |  | 3 |  | |  | 12:15 | 2 |  | |  |  | 10 | 2 | | 27-Jul-21 | 12:15 | 5 |  | |  |  | 10 | 8 | | 28-Jul-21 | 07:30 | 17 |  | |  |  | 55 |  | |  | 14:00 | 8 |  | |  |  | 2 |  | |  |  | 10 | 7 | |  |  | 7 |  | |  |  | 8 |  | | 30-Jul-21 | 09:00 | 3 |  | |  |  | 10 |  | |  |  | 2 |  | |  |  | 10 |  | |  |  | 10 |  | |  |  | 10 | 40 | | 01-Aug-21 | 09:30 | 5 |  | |  |  | 6 |  | |  |  | 7 |  | |  |  | 5 |  | |  |  | 5 |  | |  |  | 5 |  | |  |  | 5 |  | |  |  | 10 | 10 | | 04-Aug-21 | 08:00 | 3 |  | |  |  | 4 |  | |  |  | 10 |  | |  |  | 20 | 30 | | 05-Aug-21 | 13:30 | 4 |  | |  |  | 4 |  | |  |  | 10 |  | |  |  | 10 | 40 | | 06-Aug-21 | **6:45** | 4 |  | |  |  | 10 | 10 | | 08-Aug-21 | **8:45** | 4 |  | |  |  | 3 |  | |  |  | 2 |  | | 09-Aug-21 | **16:30** | 3 | 30 | |  |  | 2 | 40 | |  |  | 1 | 11 | | 10-Aug-21 | **11:50** | 3 | 10 | |  |  | 8 | 13 | |  |  | 3 |  | | 11-Aug-21 | **15:30** | 6 | 2 | |  |  | 7 | 2 | | 12-Aug-21 | 07:45 | 3 |  | |  |  | 4 | 22 | |  |  | 2 |  | |  |  | 2 |  | |  |  | 2 |  | | 12-Aug-21 | **09:30** | 2 | 15 | |  |  | 3 | 10 | |  |  | 8 | 2 | | 15-Aug-21 | 08:45 | 6 | 16 | |  |  | 24 |  | |  |  | 6 |  | |  |  | 10 |  | |  |  | 2 |  | | 19-Aug-21 | 10:30 | 6 | 4 | |  |  | 5 |  | |  |  | 5 |  | | 21-Aug-21 | 11:30 | 4 |  | | 22-Aug-21 | 08:30 | 10 |  | |  |  | 5 |  | |  |  | 10 | 3 | | 23-Aug-21 | 09:15 | 8 | 10 | |  | 14:15 | 20 | 20 | | 24-Aug-21 | 10:30 | 6 |  | | 27-Aug-21 | **15:00** | 4 | 15 | |  |  |  |  | |  |  |  |

**Appendix VI**. Group size, just before roosting in the trees. Counts were made at the launching pad in the evening. The table reveals the Mann–Whitney test results concerned. (X1 to X6 represent the months covered in the Mann–Whitney tests.)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
| March (X1) | April (X2) | May (X3) | June (X4) | July (X5) | August (X6) |
| 100 | 80 | 150 | 50 | 140 | 40 |
| 70 | 22 | 38 | 150 | 16 | 30 |
| 10 | 20 | 160 | 90 | 120 | 70 |
|  | 50 | 30 | 100 | 130 | 80 |
|  | 50 | 47 | 80 | 100 | 100 |
|  | 33 | 50 | 130 | 50 | 56 |
|  | 40 | 60 | 130 | 70 | 90 |
|  | 80 | 100 | 130 | 110 | 65 |
|  | 60 | 80 | 100 | 25 | 40 |
|  | 40 | 70 | 140 | 40 | 42 |
|  |  | 130 | 120 | 100 | 60 |
|  |  | 40 | 29 | 130 | 60 |
|  |  | 50 | 80 | 130 | 40 |
|  |  | 150 | 200 | 100 | 55 |
|  |  | 53 |  | 100 | 70 |
|  |  |  |  | 100 | 65 |
|  |  |  |  |  | 50 |
|  |  |  |  |  | 33 |
|  |  |  |  |  | 30 |
|  |  |  |  |  | 50 |
|  |  |  |  |  | 50 |
|  |  |  |  |  | 40 |
|  |  |  |  |  | 30 |
|  |  |  |  |  | 35 |
| 60 | 47.5 | 80.53 | 109.21 | 91.31 | 53.37 |
|  |  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
| **Pair** | **Difference** | **H-statistic** | **Critical value** | **ρ-value** |
| March-April | 25 | 0.2593 | 6.9605 | 0.6106 |
| March-May | 10 | 0.1726 | 6.9605 | 0.6778 |
| March-June | 40 | 2.7125 | 6.9605 | 0.09957 |
| March-July | 30 | 1.8655 | 6.9605 | 0.172 |
| March-August | 20 | 0.3374 | 6.9605 | 0.5613 |
| April-May | 15 | 3.2752 | 6.9605 | 0.07033 |
| April-June | 65 | 10.8463 | 6.9605 | 0.0009899 |
| April-July | 55 | 7.0237 | 6.9605 | 0.008044 |
| April-August | 5 | 0.6068 | 6.9605 | 0.436 |
| May-June | 50 | 2.4159 | 6.9605 | 0.1201 |
| May-July | 40 | 0.4563 | 6.9605 | 0.4993 |
| May-August | 10 | 2.677 | 6.9605 | 0.1018 |
| June-July | 10 | 0.9339 | 6.9605 | 0.3338 |
| June-August | 60 | 14.1425 | 6.9605 | 0.0001695 |
| July-August | 50 | 8.9566 | 6.9605 | 0.002765 |

**Appendix VII**.Webcamdata used to determine the percentage of heads-up counts of guineafowl in groups.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
| Time | Flock size | Number of guineafowl with head up | Habitat | % Head up | % Head down |
| 06:51 | 7 | 0 | Near scrub/Scrub | 0 | 100 |
| 07:07 | 36 | 0 | Open | 0 | 100 |
| 07:02 | 50 | 0 | Open | 0 | 100 |
| 07:10 | 40 | 0 | Near scrub/Scrub | 0 | 100 |
| 07:11 | 17 | 0 | Open | 0 | 100 |
| 07:32 | 7 | 0 | Near scrub/Scrub | 0 | 100 |
| 07:41 | 11 | 0 | Near scrub/Scrub | 0 | 100 |
| 08:13 | 15 | 2 | Open | 13.33 | 86.67 |
| 07:45 | 2 | 1 | Near scrub/Scrub | 50 | 50 |
| 07:54 | 2 | 0 | Near scrub/Scrub | 0 | 100 |
| 07:52 | 32 | 0 | Open | 0 | 100 |
| 08:08 | 0 | 0 | Near scrub/Scrub | 0 | 100 |
| 08:14 | 12 | 0 | Open | 0 | 100 |
| 08:14 | 33 | 0 | Open | 0 | 100 |
| 08:13 | 16 | 0 | Near scrub/Scrub | 0 | 100 |
| 08:00 | 20 | 1 | Open | 5 | 95 |
| 08:32 | 10 | 0 | Open | 0 | 100 |
| 08:00 | 20 | 0 | Open | 0 | 100 |
| 07:34 | 40 | 0 | Open | 0 | 100 |
| 07:53 | 24 | 0 | Near scrub/Scrub | 0 | 100 |
| 08:17 | 6 | 0 | Near scrub/Scrub | 0 | 100 |
| 08:00 | 10 | 0 | Near scrub/Scrub | 0 | 100 |
| 08:00 | 40 | 0 | Open | 0 | 100 |
| 07:44 | 20 | 0 | Near scrub/Scrub | 0 | 100 |
| 07:55 | 2 | 0 | Open | 0 | 100 |
| 08:16 | 4 | 0 | Open | 0 | 100 |
| 08:00 | 2 | 0 | Open | 0 | 100 |
| 08:33 | 13 | 0 | Near scrub/Scrub | 0 | 100 |
| 08:21 | 34 | 0 | Open | 0 | 100 |
| 09:07 | 4 | 1 | Near scrub/Scrub | 25 | 75 |
| 09:17 | 4 | 0 | Open | 0 | 100 |
| 08:50 | 7 | 0 | Open | 0 | 100 |
| 09:00 | 7 | 0 | Near scrub/Scrub | 0 | 100 |
| 09:15 | 4 | 0 | Open | 0 | 100 |
| 10:03 | 3 | 0 | Near scrub/Scrub | 0 | 100 |
| 09:30 | 6 | 0 | Open | 0 | 100 |
| 10:00 | 1 | 0 | Open | 0 | 100 |
| 10:30 | 3 | 0 | Open | 0 | 100 |
| 10:42 | 3 | 0 | Near scrub/Scrub | 0 | 100 |
| 11:20 | 3 | 0 | Near scrub/Scrub | 0 | 100 |
| 11:12 | 3 | 0 | Near scrub/Scrub | 0 | 100 |
| 11:30 | 3 | 0 | Open | 0 | 100 |
| 12:00 | 4 | 0 | Near scrub/Scrub | 0 | 100 |
| 12:00 | 3 | 9 | Near scrub/Scrub | 33.33 | 66.67 |
| 12:13 | 2 | 0 | Open | 0 | 100 |
| 12:42 | 2 | 0 | Open | 0 | 100 |
| 12:10 | 2 | 0 | Open | 0 | 100 |
| 12:30 | 20 | 0 | Open | 0 | 100 |
| 13:00 | 8 | 0 | Near scrub/Scrub | 0 | 100 |
| 14:00 | 3 | 0 | Open | 0 | 100 |
| 14:00 | 10 | 0 | Open | 0 | 100 |
| 14:00 | 10 | 0 | Near scrub/Scrub | 0 | 100 |
| 14:30 | 2 | 0 | Open | 0 | 100 |
| 15:30 | 2 | 0 | Open | 0 | 100 |
| 15:30 | 12 | 0 | Open | 0 | 100 |
| 15:04 | 4 | 0 | Near scrub/Scrub | 0 | 100 |
| 15:20 | 5 | 0 | Open | 0 | 100 |
| 15:00 | 5 | 0 | Open | 0 | 100 |
| 15:17 | 3 | 0 | Open | 0 | 100 |
| 16:42 | 10 | 0 | Open | 0 | 100 |
| 16:00 | 10 | 0 | Open | 0 | 100 |
| 16:31 | 6 | 0 | Open | 0 | 100 |
| 16:28 | 22 | 0 | Open | 0 | 100 |
| 16:14 | 7 | 0 | Open | 0 | 100 |
| 17:00 | 7 | 0 | Open | 0 | 100 |
| 15:51 | 2 | 0 | Open | 0 | 100 |
| 16:05 | 2 | 0 | Near scrub/Scrub | 0 | 100 |
| 16:20 | 7 | 0 | Open | 0 | 100 |
| 17:18 | 24 | 0 | Open | 0 | 100 |
| 18:15 | 37 | 5 | Open | 13.51 | 86.49 |
| 17:38 | 28 | 0 | Open | 0 | 100 |
| 17:23 | 6 | 2 | Near scrub/Scrub | 33.33 | 66.67 |
| 16:58 | 14 | 1 | Open | 7.14 | 92.85 |
| 17:32 | 15 | 0 | Open | 0 | 100 |
| 17:45 | 25 | 0 | Open | 0 | 100 |
| 17:43 | 30 | 0 | Open | 0 | 100 |
| 16:30 | 10 | 0 | Open | 0 | 100 |
| 16:59 | 4 | 0 | Open | 0 | 100 |
| 17:20 | 9 | 0 | Open | 0 | 100 |
| 17:00 | 4 | 1 | Open | 25 | 75 |
| 16:42 | 12 | 0 | Open | 0 | 100 |
| 17:00 | 6 | 0 | Open | 0 | 100 |
| 17:00 | 7 | 0 | Open | 0 | 100 |
| 17:35 | 12 | 0 | Near scrub/Scrub | 0 | 100 |
| 17:00 | 3 | 0 | Near scrub/Scrub | 0 | 100 |
| 16:53 | 6 | 0 | Open | 0 | 100 |
| 17:40 | 6 | 0 | Open | 0 | 100 |
| 17:55 | 8 | 0 | Open | 0 | 100 |
| 17:39 | 11 | 0 | Open | 0 | 100 |
| 17:39 | 21 | 0 | Open | 0 | 100 |
| 18:12 | 22 | 0 | Open | 0 | 100 |
| 18:16 | 55 | 0 | Open | 0 | 100 |
| 17:40 | 22 | 0 | Open | 0 | 100 |
| 18:00 | 20 | 0 | Open | 0 | 100 |
| 17:49 | 4 | 0 | Open | 0 | 100 |
| 18:00 | 20 | 0 | Open | 0 | 100 |
| 18:00 | 4 | 0 | Open | 0 | 100 |
| 18:20 | 12 | 0 | Open | 0 | 100 |
| 17:24 | 12 | 0 | Open | 0 | 100 |
| 18:00 | 8 | 0 | Near scrub/Scrub | 0 | 100 |
| 18:24 | 9 | 1 | Open | 11.11 | 88.89 |
|  |  |  |  |  |  |

**Appendix VIII**. Hourly Black-backed Jackal sightings and mean guineafowl group sizes in Tau (Madikwe Game Reserve) from April to August 2021.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
| Time of day | No. of jackals counted | Jackal/hour | Mean group sizes | Hourly observations | Social distance |
| 06:00-7:00 | 18 | 1.812 | 40.91 | 9.93 hours | 0.095 |
| 07:00-8:00 | 4 | 0.402 | 30.58 | 9.93 hours | 0.228 |
| 8:00-9:00 | 3 | 0.302 | 21.17 | 9.93 hours | 0.382 |
| 9:00-10:00 | 4 | 0.402 | 24.1 | 9.93 hours | 0.614 |
| 10:00-11:00 | 0 | 0 | 12.54 | 9.93 hours | 0.653 |
| 11:00-12:00 | 0 | 0 | 7.63 | 9.93 hours | 0.316 |
| 12:00-13:00 | 1 | 0.1 | 13.78 | 9.93 hours | 0.408 |
| 13:00-14:00 | 4 | 0.402 | 19.58 | 9.93 hours | 0.546 |
| 14:00-15:00 | 4 | 0.402 | 21.9 | 9.93 hours | 1.093 |
| 15:00-16:00 | 10 | 1 | 34.02 | 9.93 hours | 0.88 |
| 16:00-17:00 | 35 | 3.52 | 28.5 | 9.93 hours | 0.806 |
| 17:00-18:00 | 30 | 3.02 | 39.92 | 9.93 hours | 0.806 |
| 18:00-19:00 | **0** | 0 | 34.15 | 9.93 hours | 0.439 |
|  |  |  |  |  |  |

**Appendix IX**. Correlation between mean guineafowl group size, jackal/hour and social distance between group members at Tau from April to August 2021