**Table S1.** Original behavioral elements used in BORIS logging. *N* gives number of occurrences in raw dataset.

|  |  |  |  |
| --- | --- | --- | --- |
| **Element** | **N** | **Classification** | |
| Attempted Copulation | 11 | Excluded | Non-display |
| Bird2 ALAD | 55 | Excluded | Multiple male performers |
| Bird2 BowLeft | 695 | Excluded | Multiple male performers |
| Bird2 BowRight | 677 | Excluded | Multiple male performers |
| Bird2 Half-bow Left | 26 | Excluded | Multiple male performers |
| Bird2 Half-bow Right | 21 | Excluded | Multiple male performers |
| Bird2 HeadDownBowing | 56 | Excluded | Multiple male performers |
| Bird2 Mixed Element | 13 | Excluded | Multiple male performers |
| Bird2 NeckTwist | 1693 | Excluded | Multiple male performers |
| Bird2 On-log NO display | 79 | Excluded | Multiple male performers |
| Bird2 SLAD | 1 | Excluded | Multiple male performers |
| Bird2 TafLF\_Off | 28 | Excluded | Multiple male performers |
| Bird2 TafLF\_On | 26 | Excluded | Multiple male performers |
| Copulation | 24 | Excluded | Non-display |
| End | 486 | Excluded | Tracking |
| Female Looking Away | 1736 | Excluded | Female response |
| Female Movement | 978 | Excluded | Movement |
| Female Off Log | 320 | Excluded | Movement |
| Female On Log | 320 | Excluded | Movement |
| Female ResponseToALAD | 188 | Excluded | Female response |
| Female Tracking Male | 1924 | Excluded | Female response |
| FemaleSwitch | 406 | Excluded | Movement |
| Male1 ALAD | 1104 | Retained |  |
| Male1 BowLeft | 8088 | Partial | only retained Male1 Bow |
| Male1 BowRight | 7950 | Retained |  |
| Male1 Half-bow Left | 296 | Partial | only retained Male1 Half-bow Right |
| Male1 Half-bow Right | 258 | Retained |  |
| Male1 HeadDownBowing | 2360 | Retained |  |
| Male1 Metronome\_Left | 11 | Partial | only retained Male1 Metronome Right |
| Male1 Metronome\_Right | 25 | Retained |  |
| Male1 Mixed Element | 361 | Retained |  |
| Male1 NeckTwist | 5618 | Retained |  |
| Male1 Off Log | 41 | Excluded | Movement |
| Male1 On Log | 39 | Excluded | Movement |
| Male1 On Log No Display | 2225 | Retained | Movement |
| Male1 Other Behavior | 2142 | Partially retained | Excluded if specified as  “Vocalization” or “Gardening” |
| Male1 SLAD | 655 | Retained |  |
| Male1 Switch | 1145 | Retained |  |
| Male1 TafLF\_Off | 1193 | Partial | only retained Male1 TafLF\_On |
| Male1 TafLF\_On | 1223 | Retained |  |
| Start | 486 | Excluded | Tracking |

**Table S2**. Male individual display patterns.

**Table S3.** Female individual attendance patterns.

**Table S4.** Coded display strings for *Masius* displays that resulted in successful copulation (COP displays). Copulation occured after the last display element.

**Table S5.** Raw behavioral element frequency in the final dataset.

**Figure S1.** Dates of *Masius* displays in the final dataset (2014-2017).

**Figure S2.** Empirical means from the small sample of COP displays (n = 13, dashed green line), compared to randomized mean values. Distributions show 10,000 mean values, with each mean value calculated from 13 displays drawn randomly, without replacement, from the full dataset.

**Figure S3.** Correlation between display length (total number of elements) and compression ratio (i.e., the ratio of uncompressed display string length to compressed string length).

**COMPARSION OF BEFORE- AND AFTER- COPULATION DISPLAYS**

**Table S6.** Behavioral element frequencies in COP displays and after-COP displays (n = 13).

**Table S7.** Coded display strings for *Masius* displays that resulted in successful copulation (COP), followed by the display that continued after copulation. The first copulation occurred between the two displays. See Table S6 for single-character behavior codes.

**COMPARISON OF DISPLAYS FOR FEMALE AND SUSPECTED PREDEFINITIVE MALE AUDIENCES**