**Table S1.** List of acoustic features extracted for each vocalization. If applicable, the corresponding MATLAB Toolbox is listed in the References column followed by the command used (in brackets).

| Features | Definition of Features | Reference |
|---|---|---|
| Delta fund | Median value of the difference between adjacent values for F0 per time window. | |
| Dominant f | Frequency with highest Amplitude in the spectrum | |
| Min f | Lower bound of the 99% occupied bandwidth | MATLAB Signal Processing Toolbox ("obw") |
| Max f | upper bound of the 99% occupied bandwidth | MATLAB Signal Processing Toolbox ("obw") |
| Bandwidth | The 99% occupied bandwidth | MATLAB Signal Processing Toolbox ("obw") |
| Duration | Time between onset and offset of a vocalization in seconds. | |
| DFA1 | frequency at which the energy reaches the first quartile | [1] |
| DFA2 | frequency at which the energy reaches the second quartile | [1] |
| DFA3 | frequency at which the energy reaches the third quartile | [1] |
| DFA1maloc | Frequency with highest amplitude in 1st Quartile | |
| DFA2maloc | Frequency with highest amplitude in 2nd Quartile | |
| DFA3maloc | Frequency with highest amplitude in 3rd Quartile | |
| DFA4maloc | Frequency with highest amplitude in 4th Quartile | |
| F0 | Median frequency of the 1st Formant-like structure (Hz) | LPC with 205 coefficients via MATLAB Signal Processing Toolbox ("lpc") |
| F1 | Median frequency of the 2nd Formant-like structure | LPC with 205 coefficients |
| F2 | Median frequency of the 3rd Formant-like structure | LPC with 205 coefficients |
| BW F1 | Median Bandwidth of F1 | MATLAB ("findpeaks") |
| BW F2 | Median Bandwidth of F2 | MATLAB ("findpeaks") |
| BW F3 | Median Bandwidth of F3 | MATLAB ("findpeaks") |
| Δ F0-F1 | Difference of F1 and F2 | |
| Δ F1-F2 | Difference of F2 and F3 | |
| Harmonic Ratio | The harmonic ratio is returned with values in the range 0 to 1. A value of 0 represents low harmonicity, and a value of 1 represents high harmonicity. | MATLAB Audio Toolbox ("harmonicRatio") |
| Spectral Flatness | Measures how noisy a signal is. The higher the value, the noisier the signal. | MATLAB Audio Toolbox ("spectralFlatness") |

[1] Schrader; Lars; Hammerschmidt; Kurt. Computer-aided analysis of acoustic parameters in animal vocalisations: A multi-parametric approach. Bioacoustics 1997, 7, 247–265.

**Table S2.** Used ethogram of meerkat behavior with behavior definition.

| Behavior Category | Behavior | Definition |
|---|---|---|
| environment-directed behavior | guard | The animal maintains an upright posture and its head moves frequently from left to right, surveying the surrounding area. It stands on the toes of its hind legs supported by its tail resting on the ground. |
| | observe | The animals head moves frequently from left to right, surveying the surrounding area, standing on all four feet or in a sitting position. |
| self- and intraspecies-directed behavior | foraging | Individuals digging or foraging for food. |
| | rest | The animal laying on the ground while all four feet contact the ground. |
| | eat | Individuals eating food. |
| | others | Individuals do not survey the area. They are engaging in comforting behavior such as playing or grooming. |
| flight | flight | Individuals are running away, into the burrow or in-door enclosure through the enclosure wall. |
| walk | walk | Individuals are moving from one point to another. |
| n.v. | not visible | Individuals are not visible. They can either be in the caves or inner enclosure, or may be hiding behind rocks or shrubbery. |