Supplementary Table 1: Details of subjects included in the study

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl no | Subject name | Sex | Origin | Age in days | Age class | personality |
|  | A1 | M | W | 3414.00 | old | shy |
|  | Amal | M | C | 2214.74 | prime | bold |
|  | Ambica | F | C | 3984.56 | old | bold |
|  | Amiya | F | C | 2037.56 | prime | bold |
|  | Ani | F | W | 1946.00 | prime | shy |
|  | Bahadur | M | C | 653.33 | sub | bold |
|  | Bigtwin | F | W | 800.33 | sub | shy |
|  | Dharicub | M | W | 619.50 | sub | bold |
|  | Dheer | M | W | 5389.08 | old | bold |
|  | Gina | F | C | 1316.90 | prime | shy |
|  | Girm | M | W | 3337.92 | old | bold |
|  | Hemali | F | W | 2149.00 | prime | shy |
|  | Jenifer | F | C | 1491.33 | prime | bold |
|  | Jesal | M | W | 5722.18 | old | bold |
|  | Maheswari | F | C | 3411.26 | old | bold |
|  | Mariyam | F | C | 3423.35 | old | bold |
|  | Maytri | F | C | 3072.90 | old | bold |
|  | Radha | F | C | 1291.30 | prime | bold |
|  | Rani | F | C | 1291.30 | prime | bold |
|  | Ranita | F | C | 2119.00 | prime | bold |
|  | Smt | F | W | 800.33 | sub | shy |
|  | Subhi | F | C | 2240.33 | prime | shy |
|  | Sujan | F | W | 2790.80 | prime | shy |
|  | Taukir | M | C | 2448.00 | prime | bold |
|  | Teeta | F | C | 2166.93 | prime | bold |
|  | Tejaswin | F | C | 4320.93 | old | bold |
|  | Trakuda | M | W | 3956.93 | old | bold |
|  | Veer | M | W | 5387.30 | old | bold |
|  | Aftab | M | W | 3500.00 | old | bold |
|  | Patvad | F | W | 3729.00 | old | shy |
|  | Hemal | M | W | 2029.00 | prime | shy |
|  | Nagraj | M | W | 3227.00 | old | shy |
|  | Ranshi | F | W | 5109.00 | old | shy |
|  | Rudi | F | W | 4700.00 | old | shy |
|  | Patvadm | M | W | 1537.00 | prime | shy |

Supplementary Table 2: Personality traits adapted from Chadwick, 2014 and Wielebnowski, 1999)

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| --- | --- |
| Trait | Definition |
| Active | Moves around enclosure (e.g. paces, runs, stalks) |
| Aggressive to conspecifics | Reacts hostile (e.g. attacks, growls) towards other lions |
| Aggressive to familiar people | Reacts hostile and threatening to familiar keepers and staff members |
| Aggressive to unfamiliar people | Reacts hostile and threatening towards unfamiliar staff and members of the public |
| Calm | Not easily disturbed by changes in the environment |
| Curious | Approaches and explores changes in the environment |
| Eccentric | Shows stereotypic or unusual behaviours |
| Excitable | Overreacts to changes in the environment |
| Friendly to conspecifics | Initiates and seems to seek proximity of other lions |
| Friendly to keepers | Initiates proximity with keepers: approaches fence readily and in a friendly manner (e.g. purrs, rubs on fence) |
| Fearful of conspecifics | Retreats and hides from other lions |
| Fearful of familiar people | Retreats and hides from familiar keepers and staff members |
| Fearful of unfamiliar people | Retreats and hides from unfamiliar staff and members of the public |
| Insecure | Seems scared easily; “jumpy” and fearful in general |
| Playful  | Initiates and engages in play behaviour (seemingly meaningless, non-aggressive behaviour) with objects and/or other lions |
| Self-assured | Moves in a seemingly confident, well-coordinated and relaxed manner |
| Smart | Learns quickly to associate certain events and appears to remember for a long time |
| Solitary | Spends time alone; avoids company |
| Tense | Shows restraint in movement and posture |
| Vocal | Frequently and readily vocalizes  |

Supplementary Table 3: Ethogram used for this study.

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| --- | --- | --- |
| Behaviour class | Behavior | Description |
| Behavioural states | Locomotion | Walking or moving inside the enclosure. |
|  | Rest | In a reclined position, head up or down |
|  | Sit | Haunches on the ground,  |
|  | Sleep | Reclined position, eyes closed |
|  | Climb | Climbing trees |
| Discrete Behaviours | Defecate | Passing urine or fecal matter |
|  | Drink | Drinking water with distinct lapping sound |
|  | Groom | Lick or bite or scratch with paw self or conspecific |
|  | Lick | Running tongue over lips and nose multiple times in quick succession |
|  | Mark | Spraying object via perianal secretions or rubbing paws on the ground |
|  | Grab | Cautiously reaching or touching an object or conspecific with the forepaw in jabbing fashion |
|  | Roll | Body in the prostate position and rolling from side to side usually with the belly up |
|  | Rub | Pushing head or body against an object with head or part of the body |
|  | Scratch | Rubbing claws on an object (e.g. tree) |
|  | Sniff | Inhaling scent from the air or an object |
|  | Vocalize | Making noise |
|  | Yawn | Opening mouth wide while showing canines and inhaling deeply |
|  | Stalk  | Silently shadowing an object, conspecific, birds or keepers. |
|  | Other | Any other behaviour observed |
| Stereotypy | Pacing | Walking up and down on a fixed path occasionally raising its head to look up |
|  | Head bobbing | Nodding head up and down while the animal is stationery |