**Supplemental Table 1.**Peak forces as mean ± standard deviations in fore-aft (braking/propulsive), normal (pull/push), and mediolateral axes divided by limb (forelimb/hindlimb), orientation (horizontal/vertical), and substrate (flat/pole).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Substrate** | **Orientation** | **Limb** | **Variable** | **n** | **Peak** |
| Flat | Horizontal | Forelimb | Braking | 8 | -12.66 ± 8.28 |
| Propulsive | 8 | 6.53 ± 5.75 |
| Medial | 8 | -7.85 ± 4.59 |
| Lateral | 8 | 8.01 ± 6.26 |
| Push | 8 | 61.73 ± 9.16 |
| Hindlimb | Braking | 19 | -11.71 ± 6.24 |
| Propulsive | 19 | 13.37 ± 11.73 |
| Medial | 19 | -9.29 ± 7.66 |
| Lateral | 19 | 9.36 ± 5.28 |
| Push | 19 | 53.66 ± 19.53 |
| Vertical | Forelimb | Propulsive | 28 | 57.29 ± 23.80 |
| Medial | 28 | -21.56 ± 9.52 |
| Lateral | 28 | 6.13 ± 5.55 |
| Pull | 27 | -9.79 ± 5.92 |
| Hindlimb | Propulsive | 16 | 30.89 ± 14.12 |
| Medial | 16 | -17.96 ± 7.08 |
| Lateral | 16 | 11.04 ± 6.08 |
| Pull | 8 | -4.26 ± 1.58 |
| Push | 16 | 16.72 ± 11.69 |
| Pole | Horizontal | Forelimb | Braking | 25 | -14.67 ± 7.43 |
| Propulsive | 25 | 19.10 ± 7.33 |
| Medial | 25 | -10.54 ± 5.72 |
| Lateral | 25 | 11.06 ± 4.63 |
| Push | 25 | 69.51 ± 6.31 |
| Hindlimb | Braking | 26 | -12.56 ± 6.09 |
| Propulsive | 26 | 9.73 ± 6.28 |
| Medial | 26 | -8.35 ± 4.76 |
| Lateral | 26 | 10.58 ± 4.96 |
| Push | 26 | 53.55 ± 14.24 |
| Vertical | Forelimb | Propulsive | 21 | 64.98 ± 12.17 |
| Medial | 21 | -15.87 ± 5.27 |
| Lateral | 21 | 7.95 ± 5.70 |
| Pull | 21 | -21.85 ± 6.35 |
| Hindlimb | Propulsive | 23 | 64.89 ± 11.31 |
| Medial | 23 | -15.44 ± 6.25 |
| Lateral | 22 | 5.65 ± 4.40 |
| Pull | 9 | -16.29 ± 6.66 |
| Push | 23 | 17.51 ± 4.87 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Orientation** | **Substrate** | **Individual** | **Mass (Kg)** | **Limb** | **Trials Contributed** |
| Upright | Flat | Fuji | 0.030366 | Fore | 1 |
| Hind | 1 |
| Gala | 0.02963 | Hind | 4 |
| Grannysmith | 0.047958 | Fore | 2 |
| Hind | 2 |
| HoneyCrisp | 0.035837 | Fore | 3 |
| Hind | 5 |
| PinkLady | 0.026446 | Fore | 1 |
| Hind | 7 |
| Pole | Grannysmith | 0.047958 | Fore | 1 |
| Hind | 1 |
| HoneyCrisp | 0.035837 | Fore | 10 |
| Hind | 9 |
| PinkLady | 0.026446 | Fore | 1 |
| Hind | 1 |
| Fuji | 0.030366 | Fore | 12 |
| Hind | 14 |
| Gala | 0.02963 | Fore | 1 |
| Hind | 1 |
| Vertical | Flat | Fuji | 0.030366 | Fore | 11 |
| Hind | 5 |
| Gala | 0.02963 | Fore | 5 |
| Hind | 6 |
| Grannysmith | 0.047958 | Fore | 4 |
| Hind | 1 |
| HoneyCrisp | 0.035837 | Fore | 2 |
| PinkLady | 0.026446 | Fore | 6 |
| Hind | 4 |
| Pole | PinkLady | 0.026446 | Fore | 4 |
| Hind | 3 |
| Gala | 0.02963 | Fore | 1 |
| Hind | 2 |
| HoneyCrisp | 0.035837 | Fore | 16 |
| Hind | 18 |

**Supplemental Table 2.** Contributions of each animal to single limb force data, separated per experimental condition/orientation.

|  |  |  |  |
| --- | --- | --- | --- |
| **Orientation** | **Individual** | **Mass (Kg)** | **Trials Contributed** |
| Upright | Fuji | 0.030366 | 7 |
| PinkLady | 0.026446 | 12 |
| Vertical | Fuji | 0.030366 | 30 |
| HoneyCrisp | 0.035837 | 1 |
| PinkLady | 0.026446 | 25 |

**Supplemental Table 3.** Contributions of each animal to center of mass data, separated per experimental condition/orientation.

**Supplemental Table 4**. Contributions of each animal to spatiotemporal data, separated per experimental condition/orientation.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Orientation** | **Substrate** | **Individual** | **Mass (Kg)** | **Trials Contributed** |
| Upright | Flat | Fuji | 0.030366 | 12 |
| Grannysmith | 0.047958 | 10 |
| HoneyCrisp | 0.035837 | 2 |
| PinkLady | 0.026446 | 22 |
| Pole | HoneyCrisp | 0.035837 | 12 |
| PinkLady | 0.026446 | 4 |
| Fuji | 0.030366 | 21 |
| Gala | 0.02963 | 1 |
| Vertical | Flat | Fuji | 0.030366 | 12 |
| Gala | 0.02963 | 6 |
| HoneyCrisp | 0.035837 | 3 |
| PinkLady | 0.026446 | 9 |
| Pole | Fuji | 0.030366 | 12 |
| Gala | 0.02963 | 11 |
| Grannysmith | 0.047958 | 6 |
| HoneyCrisp | 0.035837 | 25 |
| PinkLady | 0.026446 | 10 |

**Supplemental Movie 1.** Triaxial [Fore/aft (top); Normal (center); and Mediolateral (bottom)] single limb forces collected from the forelimb (blue) and hindlimb (yellow) collected during vertical climbing in Australian green tree frogs (*Ranoidea caerulea*). All data presented as a proportion of body weight (% BW).