**Morphometric Analysis on Captive-bred Pig-tailed macaque (*Macaca nemestrina* Linnaeus, 1766) Growth**

**Suryo Saputro1\*, Adinda Darayani Azhar1, Wahyu Putriyani1, Vinka Aftinata Kusumaputri2, Suzy Tomongo1, Amelia Diyan Safitri1, Permanawati1**

1 Primate Research Center IPB University, Indonesia, Jalan Lodaya II No. 5, Bogor 16151, Indonesia

2 Primate Research Center IPB University Affiliated Researcher

**Corresponding author:**  [suryosuryo@apps.ipb.ac.id](mailto:suryosuryo@apps.ipb.ac.id)



**Supplementary Materials**

Table 2. Body measurement

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Age  (Mo) | N | | Body Length (mm) | | Chest Width (mm) | | Chest Thickness (mm) | | | Waist Width (mm) | |
| M | F | M | F | M | F | M | F | M | | F |
| 5 | 3 | 2 | 172,52 ± 6,96 | 177,49 ± 6,23 | 53 ± 6,48 | 58,30 ± 0,19 | 63 ± 3,42 | 66,93 ± 1,49 | 52,10 ± 3,21 | | 50,14 ± 0,76 |
| 8 | 2 | 4 | 196,8 ± 7,64 | 194,52 ± 12,60 | 62,87 ± 5,84 | 62,83 ± 4,47 | 70,84 ± 6,73 | 67,51 ± 7,83 | 49,27 ± 7,69 | | 54,94 ± 6,09 |
| 12 | 4 | 3 | 215,72 ± 0,87 | 222,43 ± 12,78 | 58,49 ± 2,69 | 64,58 ± 5,49 | 70,57 ± 4,95 | 80,08 ± 2,30 | 57,35 ± 5,40 | | 54,34 ± 3,60 |
| 15 | 6 | 2 | 231,44 ± 8,10 | 218,72 ± 10,49 | 70,42 ± 15,66 | 60,99 ± 3,24 | 72,87 ± 0,02 | 71,37 ± 3,78 | 64,39 ± 10,41 | | 54,78 ± 2,51 |
| 19 | 5 | 3 | 245,122 ± 24,27 | 239,27 ± 14,71 | 66,60 ± 9,01 | 66,35 ± 4,18 | 76,67 ± 5,97 | 86,91 ± 8,75 | 63,56 ± 3,24 | | 63,48 ± 4,78 |
| 24 | 5 | 7 | 260,584 ± 23,88 | 258,41 ± 19,74 | 69,51 ± 8,52 | 73,39 ± 10,87 | 77,44 ± 4,44 | 79,09 ± 7,28 | 66,73 ± 4,54 | | 66,21 ± 7,22 |
| 27 | 6 | 7 | 274,64 ± 12,06 | 260,83 ± 9,82 | 77,07 ± 7,22 | 73,33 ± 6,63 | 92,60 ± 4,35 | 86,07 ± 7,42 | 72,73 ± 5,73 | | 67,89 ± 7,00 |
| 31 | 2 | 4 | 269,055 ± 12,54 | 274,17 ± 17,16 | 70,91 ± 0,16 | 74,26 ± 10,79 | 91,17 ± 1,05 | 78,82 ± 9,43 | 69,49 ± 11,96 | | 68,76 ± 7,9 |
| 36 | 3 | 4 | 308,12 ± 31,17 | 294,06 ± 13,61 | 78,47 ± 10,13 | 87,15 ± 11,07 | 87,92 ± 5,43 | 92,62 ± 12,00 | 80,49 ± 3,49 | | 78,49 ± 4,12 |
| 39 | 3 | 3 | 324,8 ± 25,39 | 319,62 ± 45,35 | 77,43 ± 6,70 | 70,70 ± 2,44 | 96,17 ± 7,29 | 89,55 ± 6,1 | 81,93 ± 2,31 | | 73,06 ± 7,96 |
| 45 | 2 | 5 | 349,75 ± 42,78 | 320,53 ± 19,97 | 76,60 ± 3,39 | 81,80 ± 8,93 | 101,83 ± 7,04 | 101,11 ± 13,19 | 82,80 ± 10,18 | | 83,05 ± 13,15 |
| 50 | 3 | 2 | 359,87 ± 14,13 | 328,22 ± 1,81 | 83,67 ± 3,84 | 88,68 ± 5,18 | 109,53 ± 8,29 | 110,33 ± 2,86 | 97,50 ± 4,10 | | 92,71 ± 0,88 |

Table 3. Head measurement

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Age (Month) | N | | Head Height (mm) | | Head Width (mm) | |
| M | F | M | F | M | F |
| 5 | 3 | 2 | 74,00 ± 2,72 | 75,30 ± 2,72 | 65,70 ± 0,88 | 65,36 ± 1,01 |
| 8 | 2 | 4 | 83,82 ± 1,93 | 77,84 ± 1,93 | 62,33 ± 2,44 | 67,45 ± 7,65 |
| 12 | 4 | 3 | 84,39 ± 3,87 | 79,45 ± 3,87 | 66,29 ± 0,40 | 66,46 ± 0,50 |
| 15 | 6 | 2 | 85,89 ± 0,42 | 86,30 ± 0,42 | 67,89 ± 0,42 | 68,83 ± 0,32 |
| 19 | 5 | 3 | 85,36 ± 2,54 | 81,89 ± 2,54 | 69,04 ± 3,61 | 66,08 ± 5,56 |
| 24 | 5 | 7 | 93,97 ± 5,32 | 91,47 ± 5,32 | 71,93 ± 2,94 | 71,15 ± 2,56 |
| 27 | 6 | 7 | 90,05 ± 6,38 | 90,43 ± 6,38 | 72,12 ± 4,83 | 71,52 ± 1,61 |
| 31 | 2 | 4 | 94,34 ± 6,62 | 89,18 ± 6,62 | 65,41 ± 2,79 | 72,34 ± 5,83 |
| 36 | 3 | 4 | 96,69 ± 2,02 | 95,40 ± 2,02 | 73,51 ± 4,77 | 75,96 ± 3,02 |
| 39 | 3 | 3 | 105,03 ± 2,91 | 95,59 ± 2,91 | 75,87 ± 6,83 | 79,70 ± 4,40 |
| 45 | 2 | 5 | 106,24 ± 6,35 | 93,54 ± 6,35 | 71,01 ± 9,89 | 77,86 ± 7,71 |
| 50 | 3 | 2 | 111,77 ± 8,39 | 97,54 ± 8,39 | 83,60 ± 2,46 | 76,73 ± 6,76 |

Table 4. Extremities measurement of each part

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Age  (Mo) | N | | Upper-arm Length (mm) | | Fore-arm Length (mm) | | Thigh Length (mm) | | Calf Length (mm) | |
| M | F | M | F | M | F | M | F | M | F |
| 5 | 3 | 2 | 103,50 ± 2,91 | 99,68 ± 2,35 | 107,70 ± 2,36 | 100,92 ± 0,28 | 106,60 ± 2,20 | 99,23 ± 0,72 | 114,70 ± 3,05 | 106,79 ± 1,03 |
| 8 | 2 | 4 | 115,04 ± 10,56 | 111,25 ± 7,83 | 108,56 ± 10,10 | 114,98 ± 11,22 | 110,98 ± 4,70 | 111,65 ± 20,51 | 120,08 ± 9,09 | 113,29 ± 17,20 |
| 12 | 4 | 3 | 118 ± 8,44 | 125,09 ± 7,91 | 119,26 ± 11,68 | 125,83 ± 7,64 | 121,41 ± 315 | 123,74 ± 1,13 | 121,27 ± 4,62 | 127,61 ± 9,38 |
| 15 | 6 | 2 | 118,48 ± 3,81 | 127,17 ± 8,73 | 123,15 ± 4,27 | 138,77 ± 2,50 | 123,78 ± 6,10 | 137,01 ± 11,33 | 120,25 ± 12,08 | 140,44 ± 3,45 |
| 19 | 5 | 3 | 119,44 ± 18,54 | 125,88 ± 7,40 | 124,09 ± 11,94 | 134,85 ± 3,89 | 138,47 ± 15,96 | 145,70 ± 16,40 | 132,11 ± 7,46 | 136,21 ± 6,96 |
| 24 | 5 | 7 | 138,71 ± 12,65 | 130,87 ± 15,51 | 143,67 ± 7,16 | 139,29 ± 11,52 | 150,91 ± 8,60 | 144,73 ± 14,09 | 151,44 ± 15,78 | 143,68 ± 8,22 |
| 27 | 6 | 7 | 147,14 ± 6,91 | 139,28 ± 5,27 | 153,46 ± 8,23 | 151,53 ± 5,54 | 153,56 ± 7,33 | 155,53 ± 8,10 | 151,55 ± 10,91 | 148,36 ± 2,59 |
| 31 | 2 | 4 | 132,30 ± 3,08 | 146,34 ± 12,68 | 153,95 ± 7,14 | 148,11 ± 2,85 | 148,43 ± 1,82 | 154,57 ± 10,77 | 152,79 ± 14,47 | 150,47 ± 7,64 |
| 36 | 3 | 4 | 156,41 ± 13,45 | 155,80 ± 8,25 | 167,90 ± 12,35 | 166,47 ± 8,36 | 169,77 ± 20,76 | 168,72 ± 8,89 | 165,59 ± 9,95 | 168,94 ± 10,32 |
| 39 | 3 | 3 | 164,33 ± 7,02 | 158,30 ± 1,03 | 175,60 ± 12,97 | 157,28 ± 15,28 | 178,50 ± 7,94 | 168,40 ± 15,23 | 180,13 ± 10,52 | 159,31 ± 22,17 |
| 45 | 2 | 5 | 174,51 ± 4,66 | 161,89 ± 17,74 | 185,22 ± 20,91 | 166,38 ± 14,99 | 179,16 ± 22,41 | 174,44 ± 15,66 | 178,82 ± 29,67 | 177,28 ± 18,19 |
| 50 | 3 | 2 | 193,80 ± 8,65 | 166,53 ± 13,71 | 212,27 ± 5,52 | 177,93 ± 11,89 | 212,27 ± 7,85 | 195,23 ± 8,87 | 208,43 ± 4,18 | 186,40 ± 7,00 |

Table 5. Hand and foot measurement

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Age (Mo) | N | | Hand Length (mm) | | Foot Length (mm) | |
| M | F | M | F | M | F |
| 5 | 3 | 2 | 207,97 ± 5,24 | 200,60 ± 2,64 | 215,79 ± 3,36 | 206,02 ± 1,75 |
| 8 | 2 | 4 | 223,60 ± 20,65 | 226,23 ± 18,42 | 231,06 ± 13,78 | 224,94 ± 36,98 |
| 12 | 4 | 3 | 237,25 ± 17,74 | 250,92 ± 12,06 | 242,68 ± 20,12 | 251,35 ± 8,94 |
| 15 | 6 | 2 | 241,62 ± 15,75 | 265,94 ± 11,22 | 244,02 ± 16,47 | 277,45 ± 14,78 |
| 19 | 5 | 3 | 243,53 ± 29,42 | 260,73 ± 11,28 | 270,58 ± 18,63 | 281,91 ± 9,54 |
| 24 | 5 | 7 | 282,38 ± 18,83 | 270,16 ± 26,71 | 302,35 ± 16,06 | 288,42 ± 20,66 |
| 27 | 6 | 7 | 300,61 ± 13,27 | 290,81 ± 10,43 | 305,11 ± 15,30 | 303,89 ± 10,20 |
| 31 | 2 | 4 | 286,25 ± 4,06 | 294,44 ± 12,06 | 301,22 ± 16,30 | 305,04 ± 17,42 |
| 36 | 3 | 4 | 324,31 ± 25,37 | 322,27 ± 15,50 | 335,36 ± 30,19 | 337,65 ± 12,70 |
| 39 | 3 | 3 | 339,93 ± 19,89 | 315,58 ± 16,16 | 358,63 ± 17,12 | 327,72 ± 36,36 |
| 45 | 2 | 5 | 359,72 ± 25,57 | 328,27 ± 31,45 | 357,98 ± 52,08 | 351,73 ± 32,02 |
| 50 | 3 | 2 | 406,07 ± 12,17 | 344,45 ± 25,60 | 420,70 ± 8,31 | 381,63 ± 15,87 |
|  | | | | | | |