ABSTRACT
THE RELATION BETWEEN THE LENGTH OF HUMERUS AND THE POSTURE OF SUMATERAN ELEPHANT (*Elephas maximus sumatranus*)

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07/253931/KH/058287

Sumatera and Borneo islands are the habitat of two subspecies of elephants (*Elephas maximus*), they are *Elephas maximus sumatranus* (Sumateran elephant) and *Elephas maximus borneensis* (Borneo elephant). *Elephas sp.* is a species of elephant that have evoluted since several million years ago. Moreover, many fossils of *Elephas sp.* had been found in Indonesia. This research is aimed to know the relation between the length of elephant's humerus and the posture of the mature Sumateran elephant (the length of the body, the height of the body, the heart girth, and the wide of pelvis) so that it can be useful in the need of fossil reconstruction.

Six mature *Elephas maximus sumatranus* from Borobudur Temple, Magelang, eight samples from Safari Park, Cisarua, Bogor and two samples *Elephas maximus sumatranus* from Gembira Loka Zoo, Yogyakarta were used in this research. The length of Humerus, the length of the body (measured from frontalis into the basic of the tail) and the height of the body (measured from the highest backbone point into the ground), and the heart girth were measured by using measuring tape, while modified calipers were used to get the wide of pelvis. The data obtained are analyzed with regression and correlation by using *MS Excel 2007* and *SPSS 16*. Finally, the statistical result were used to determined the relation between humerus and the length of the body, the height, the heart girth, and the wide of pelvis.

From the measurement data are obtained the comparison formula between the length of humerus and the the length of the body of mature *Elephas maximus sumatranus* is $y = 1{,}708x + 117{,}5$, the length of humerus and the height of the body is $y = 1{,}517x + 90{,}44$, the length of humerus and the heart girth is $y = 2{,}078x + 124{,}6$, the length of humerus and the wide of pelvis is $y = 0{,}678x + 43{,}24$, with x is the length of humerus and y is the variable that wants to be known.

Key words: Sumateran elephant, Os. Humerus, Equation formula.