

054

## AN INDEX OF ASYMMETRY TO UNCOVER PREFERENTIAL MANIFESTATION OF BILATERAL NON-METRIC CHARACTER

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Bodily structures are described in metric (quantitative, continuous; e.g. stature, weight) and non-metric (qualitative, discreet; e.g. color of eye, number of scales) variants. Non-metric character that is manifested in both sides of body generally exhibits symmetry. Its absence in one side or its unilateral presence results in asymmetry. In assessing a population, Chi-squared test is available to evaluate whether the difference in frequencies is statistically significant or not. However, this statistics does not give any direction for the trait's lateralization. An index of asymmetry A is proposed to provide a direction as to which side of the body a trait is reside. This index is a ratio in which its numerator is the difference in number of individuals whom the trait is observed only in right side minus number of individuals whom the trait is observed only in their left and the denominator is the total number of sides which are observed to have the trait. Index of asymmetry A ranges from -1 to +1. Extreme value of -1 indicates that the character is seen only in left side of individuals and +1 in their right, while 0 indicating no lateral preference. Application of the index to analyze the frequencies of dermatoglyphic whorl on interdigital areas of palm of seven species of Sulawesi macaques reveals that unilateral radial whorl has a preference to be manifested in left, while ulnar in right hand. This shows that the index A may be used to uncover preferential manifestation of a trait.

Keywords: lateralization, index of asymmetry A, dermatoglyphics, Sulawesi macaques