Discriminant analysis of animal species odor's response.

ABSTRACT

The basis of our study is to identify the discriminating groups that are present in the observations as well as looking into the details of the classification of the observation that forms each group. The observations were obtained as a secondary data from a clinical experiment done by Wuensch, K. L in 1992 in his research paper, to identify the effects on the response of the fostered house mice towards species odor. The subjects used are only from the house mice of the species Mus. The nursing mothers selected were only from three species, which are house-mouse (Mus), deer mouse (Peromyscus) or rat (Rattus). The method used in this study is the discriminant analysis techniques. This study established the discriminant functions based on three groups of cross-forested nursing mothers in identifying the effects of response of the subjects towards the species odor. For new predicted membership, it is found that the largest group is group 3 which is the rat (Rattus) group. The resubstitution of the error rate is 30.6% and the cross validation error rate is 38.9%. Thus, because of the new observation was allocated to group of rat, it shows that the linear discriminant function obtained has been justified with the Discriminant Function Coefficient which showed that Rat-V is the predictor that is most heavily weighted on the first discriminant function. Mainly, this study can provide a platform and guidelines for other researchers to understand the classification characteristics of fostered animal species in response to species odor. Other than that, it will open other opportunities for other researchers to study discriminating factors of other species for the same objectives.

Keyword: Disriminant anaylysis; Odor; Animal species; Classification.