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MORPHOLOGICAL AND AGRONOMICAL DIVERSITY OF
ANDROGRAPHIS PANICULATA ACCESSIONS USING CLUSTER
ANALYSIS

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Naein-e Havandi *Andrographis paniculata* is a medicinal herb in the family Acanthaceae. The leaves of the plant contain abundant diterpinoids of medicinal properties [1]. Knowledge of morphological and agronomical diversity improves the efficiency of germplasm conservation and development. The objective of present study was to evaluate 32 accessions of *A. paniculata* from different states of Malaysia in terms of morphological and agronomical traits. The results showed highly significant differences among the accessions in terms of most of the studied traits, while there were no significant differences among the accessions in terms of number of leaf and root fresh weight. Analysis of variance based on seven states showed that there were no significant differences among the accessions in terms of most of the studied morphological and agronomical traits inside the each state. The highest total dry weight (TDW) (0.41 g) was belonged to accession No. 11340 from Kelantan, while the lowest TDW (0.12 g) was belonged to accession No. 11314 from Terengganu. The correlation between of most of the studied morphological and agronomical traits was high significant and positive. The cluster analysis based on the studied morphological and agronomical traits of 32 accessions produced three groups. The first group comprised of 5 accessions, the second group consisted of 10 accessions and the third group contains 17 accessions. Overall, the outcomes of the present study were indicated the presence of high genetic variability among the *A. paniculata* accessions. Our findings suggest that the plants belong to different clusters can be used for hybridization to generate useful recombinants in the segregating generations, the genetics and breeding programs for improvement of *A. paniculata*.

References

[1] Valdiani, A.; Mihdzar, A. K.; Tan, S. G.; Talei, D.; Puad, M. A.; Nikzad, S. *Mol Biol Rep.* **2012**, 39, 5409-5424.