CONCLUSIONS

In this present study, it was indicated that fourteen species were recognized based on morphological characters. Four species were newly described, namely *F. berbakensis* Widjaja, Pasaribu & Hidayat, *F. dewildeorum* Pasaribu, *F. leuserensis* Pasaribu, and *F. scabrosa* Pasaribu & Widjaja. Phenetic similarity analysis revealed that there were three groups of *Freycinetia* with coefficient similarity value ranges from 58% - 86%.

Leaf anatomical study on fourteen species indicated that the arrangement of stomata, epidermal cell on paradermal section and palisade and sponge tissue in transverse section are varying among the species and quitely different for each species and SEM of leaves can be used in supporting the delimitation of similar taxa from anatomical point of view. Anatomical data from paradermal and transversal sections are as valuable as morphological data.

The ecological study provides new data on the distribution of several species. The number of endemic species is increasing from one (*F. distigmata*) to four with the inclusion of *F. berbakensis*, *F. leuserensis*, and *F. scabrosa*. Most species are distributed on primary and secondary forest along Barisan Range, mainly on *Humic* soil on lowland area below 1000 m above sea level with the annual rainfall ranging from 2000-2500 to 4500-5000 mm per year.

The result of habitat modeling showed that there are quite good habitat left for *Freycinetia* in Aceh, West Sumatra, Bengkulu and Mentawai and the potential habitat is predicted larger than the present about 72.29% and this is supported by Good accuracy modeling (72.56%) with the Kappa Statistic Value of 0.47759. The occurrence of the species is normally distributed with the probability is less than 0.00001.