

CHAPTER 7

GENERAL CONCLUSION

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Afgekia sericea Craib have been record only in Thailand, widely distributed in the northeastern region but now the remaining populations are very small and becoming rare due to natural habitats disturbed and very low percentage of fruit setting. The present study was conducted to investigate the pollination biology to explain why fruit setting is low. In this species, inflorescences are produced from April to October and each inflorescence lasts about 2 months. Based on SEM studies revealed that floral structure developed acropetally. Flowers anthesis begin from 4:00 hour and last only one day. The maximum pollen viability in *A. sericea* is 90% by tetrazolium test, but 68% by germinating *in vitro* and the viability abruptly decreased after 24 hours. The stigma receptivity occurs in the same period of time of anthesis. Nineteen insects and one bird species were found to be visitors but only twelve might take part in the pollination, of which *Megachile velutina* Smith is likely a main pollinator. These insect visitors are attracted by nectary guides and rewarded by pollen and/or nectar. The nectar is produced by secretary cells in the collar disc around the gynoecium. From HPLC analysis, the nectar is composed mainly of sucrose. Bagging experiments yielded no fruit setting. In addition, open pollination that allowed insect to visit flowers, resulted in fruit setting. Furthermore, distance between individual plant may affect the success of fruit setting, i.e. the close of plants, the more fruit setting. It might be then concluded that *A. sericea* is likely cross-pollinating species and is self-incompatible. Thus, possible causes of low fruit setting might be the existence of self-incompatibility and young fruit abortion.

Problems and Suggestions

Due to the limitation of study materials, the ultraviolet patterning in *A. sericea* is somehow not yet complete in this study. Further investigation in ultraviolet patterning is needed to the completion of the study. Then, it will give more data about floral biology of this species.