B03 – DNA Barcode identification of *Hoya* Species in lowland forest of Jambi, Indonesia

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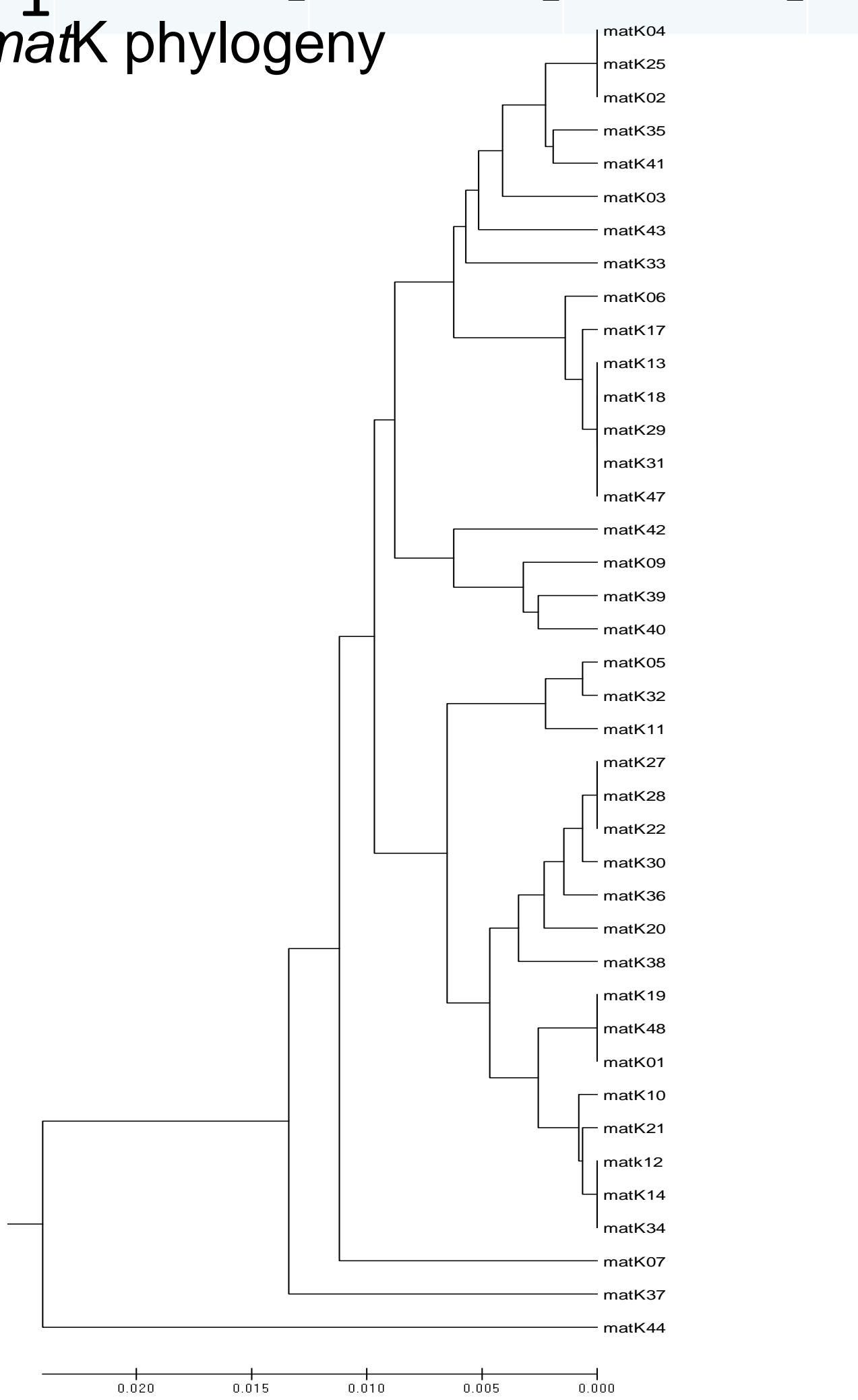Contact: srirahayukrb@ yahoo.com ; siregar@apps.ipb.ac.id; rfinkel@gwdg.de

SUMMARY

Hoya species diversity in Jambi can be utilized by the local people as new economic source i.e. promoted as ornamental plant which can be exported overseas, in addition to research and development for future biomedicines. The information on species and genetic diversity in Jambi i.e. in Taman Nasional Bukit Duabelas is still very limited, while habitat changes have increased rapidly. The degree of impact of habitat changes to the species and genetic diversity of Hoya in Jambi is lacking and is urgently needed to be determined in order to formulate the appropriate conservation strategy and sustainable utilization of the species. Species inventory had been conducted at three locations in lowland areas in Jambi i.e. Bukit Duabelas National Park, Bukit Sari Botanic Gardens and Harapan/PT REKI (Bungku). We observed in four different transformation systems i.e. forest, jungle rubber, rubber plantation and oil palm plantation in order to know how is the impact of different habitat changes on the presence of Hoya species. There were at least 9 or 10 Hoya species that were found only from forested plots. As most of the samples found in sterile conditions and it is very plastic in vegetative morphology, we would like to apply DNA barcode based identification to distinguish between species. There were library at the BOLD system for Hoya species from *mat*K and ITS markers. Up to now, there is no exact or the best markers for DNA barcoding on Hoya species yet. We used *mat*K and *rbc*L as markers as both of them used as universal markers on DNA barcode based identification on plants. We found that rbcL was not fine enough to differentiate between species, while matK was to some extent much better than rbcL. However, haplotype variation between species could still be observed but further research is still needed to explore the other potential markers on Hoya.

No.	Species name	(A) BUKIT DUABELAS NATIONAL PARK				(B) Harapan/Bungku				(C) Bukit Sari			
		Forest	Jungle rubber	Rubber plant.	Oil Palm plant.	Forest	Jungle rubber	Rubber plant.	Oil Palm plant.	Forest	Jungle rubber	Rubber plant.	Oil Palm plant.
1	*Hoya cf revoluta*	6	-	-	-	2	-	-	-	12	-	-	-
2	*Hoya latifolia*	-	-	-	-	1	-	-	-	10	-	-	-
3	*Hoya finlaysonii*	-	-	-	-	1	-	-	-	1	-	-	-
4	*Hoya imperialis*	-	-	-	-	1	-	-	-	-	-	-	-
5	*Hoya rintzii*	2	-	-	-	-	-	-	-	2	-	-	-
6	*Hoya lacunosa*	-	-	-	-	-	-	-	-	1	-	-	-
7	*Hoya cf. caudata*	5	-	-	-	-	-	-	-	1	-	-	-
8	*Hoya coronaria*	1	-	-	-	-	-	-	-	1	-	-	-
9	*Hoya cf padangensis*	1	-	-	-	-	-	-	-	-	-	-	-

*mat*K phylogeny

*rbc*L phylogeny