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

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## **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.





DFG

		(A) BUKIT DUABELAS NATIONAL PARK				(B) Haraj	ban/Bungk	ku		(C) Bukit Sari				
No	Species name	Forest	Jungle	Rubber	Oil	Forest	Jungle	Rubber	Oil Palm	Forest	Jungle	Rubber	Oil Palm	
•			rubber	plant.	Palm		rubber	plant.	plant.		rubber	plant.	plant.	

			plant	t.		•				•	•
1Hoya cf revoluta	6	-	_	-	2	-	_	-	12	_	_
2Hoya latifolia	-	-	-	-	1	-	-	-	10	_	_
3Hoya finlaysonii	_	-	_	-	1	-	-	-	1	_	_
4Hoya imperialis	_	-	-	-	1	-	_	-	_	_	_
5 <i>Hoya rintzii</i>	2	_	_	-	_	_	_	-	2	_	_
6Hoya lacunosa	_	-	_	-	_	-	_	-	1	_	_
7Hoya cf. caudata	5	_	_	-	_	_	_	-	1	_	_
8Hoya coronaria	1	_	_	-	_	-	_	_	_	_	_
<image/>	1 matKph	matK04 matK25 matK02 matK35 matK41 matK33 matK43 matK33 matK13 matK13 matK13 matK13 matK29 matK31 matK47	- rbcL phylogeny	boot boot boot boot boot boot boot boot			My ANNAR Lags Vinh Aparri   Wangoon Vientriéne Khon Keen Dě Nang Baguio Luzon   Moulmein HALLAND Oui Nhon Baguio Internation   Port ělair Oui Nhon Oui Nhon Maga Philippine Sea   Port ělair Phon Benh Ba Lat Spratiy Cebus Tacioban M 1 C R O N E S T A 10   Andaman Vietnam Minh City (disputed) Cagaran de Orio PACIFIC OCEAN   Sea Nakhon Si Thammarat South China Sea Cotabato Davao doror   Banda Aur Setaro Kota Beharu Bandar Ser Kata Goror Santos   Banda Singapore Maladar Ser Manado Manado Manado   Melask s Singapore MALDA-ISCANDS Manado Manado   Palagian Santos Falates of MicRONESI. Palagian Palagian   Palagian Santos Falates of MicRONESI. Palagian Palagian   Banda Singapore Malassan Bonjarmasin Bonle Manado   Banda Singapore Malassan Bonjarmasin Bonle Anbon Puncek Taya   Bangkulu Sumare Sea <				



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University of Göttingen Bogor Agricultural University

University of Jambi

**Tadulako University**