

B03 *Hoya* (Apocynaceae: Asclepiadoideae) species diversity in different transformation systems in Jambi

ABS FUNDS



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SUMMARY

Hoya species diversity in Jambi can be utilized by the local people for 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 and genetic diversity have been assessed by field surveys at four different transformation systems in Bukit Dua Belas, Jambi, i.e. forest, jungle rubber, rubber plantation and oil palm plantation. The species identification will be conducted by using DNA barcoding methods as most of the sample are usually found in vegetative stage and are difficult to identify taxonomically because the vegetative phase of *Hoya* was is plastic. DNA barcoding will be assessed by using *matK* and *rbcl* markers. Genetic diversity will be assessed, instead of DNA barcoding markers, by using ISSR markers especially at population levels. The findings will be used to formulate appropriate recommendation in *Hoya* conservation and sustainable utilization by the local people in Jambi.

CURRENT RESULT

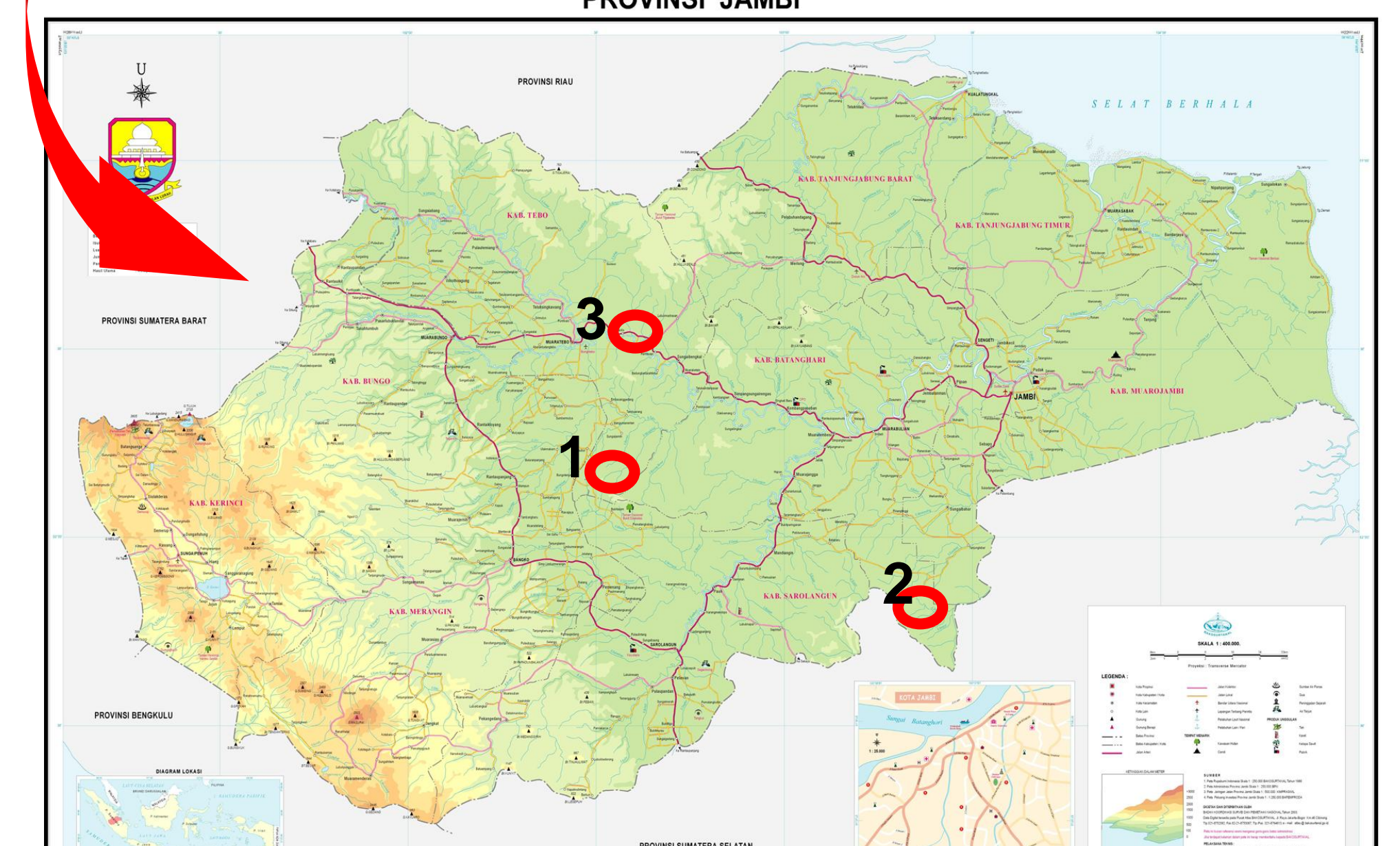
Three landscapes at Jambi have been observed i.e. 1. Bukit Duabelas National Park (Sarolangun), 2. Hutan Harapan PT Reki (Bungku) and 3. Bukit Sari (Muara Bungo). The result of species distribution presented in Table 1.

Table 1. *Hoya* Species and individual numbers found in every locations observed in Jambi, Indonesia

No	Species name	1. BUKIT DUABELAS NATIONAL PARK				2. Harapan/Bungku				3. Bukit Sari			
		Forest	Jungle rubber	Rubber plant	Oil plant	Forest	Jungle rubber	Rubber plant	Oil plant	Forest	Jungle rubber	Rubber plant	Oil plant
1	<i>Hoya cf. revoluta</i>	6	-	-	-	2	-	-	-	12	-	-	-
2	<i>Hoya cf. latifolia</i>	-	-	-	-	1	-	-	-	10	-	-	-
3	<i>Hoya cf. finlaysonii</i>	-	-	-	-	1	-	-	-	1	-	-	-
4	<i>Hoya imperialis</i>	-	-	-	-	1	-	-	-	-	-	-	-
5	<i>Hoya rintzii</i>	2	-	-	-	-	-	-	-	2	-	-	-
6	<i>Hoya lacunosa</i>	-	-	-	-	-	-	-	-	1	-	-	-
7	<i>Hoya cf. caudata</i>	5	-	-	-	-	-	-	-	1	-	-	-
8	<i>Hoya coronaria</i>	1	-	-	-	-	-	-	-	-	-	-	-
9	<i>Hoya cf. padangensis</i>	1	-	-	-	-	-	-	-	1	-	-	-
10	<i>Dischidia cf. benghalensis</i>	-	-	-	-	-	-	-	-	1	-	-	-
11	<i>Dischidia imbricata</i>	2	-	-	-	-	-	-	-	1	1	-	-

DISCUSSION

- Only *Hoya rintzii* was found with flower, both in Bukit Duabelas and Bukit Sari, so the identity is clear. Otherwise are without flower, so the identity still dubious. Further identification by means DNA barcode is needed.
- *Dischidias* were included here, as recent phylogenetic investigation (Wanntorp *et al* 2006; Wanntorp *et al* in prep.) showed *Dischidia* is nested among *Hoya* species based on the various cp and nuclear molecular markers.
- *Hoya* species in Jambi was only found in the forest, none in different changing ecosystems. Only a single species of *Dischidia* (*D. imbricata*) can adapt in changing habitat i.e. Jungle rubber.
- *Hoya cf. revoluta* was the most abundant and wide spread species, although it is still not found in changing ecosystems.



B03

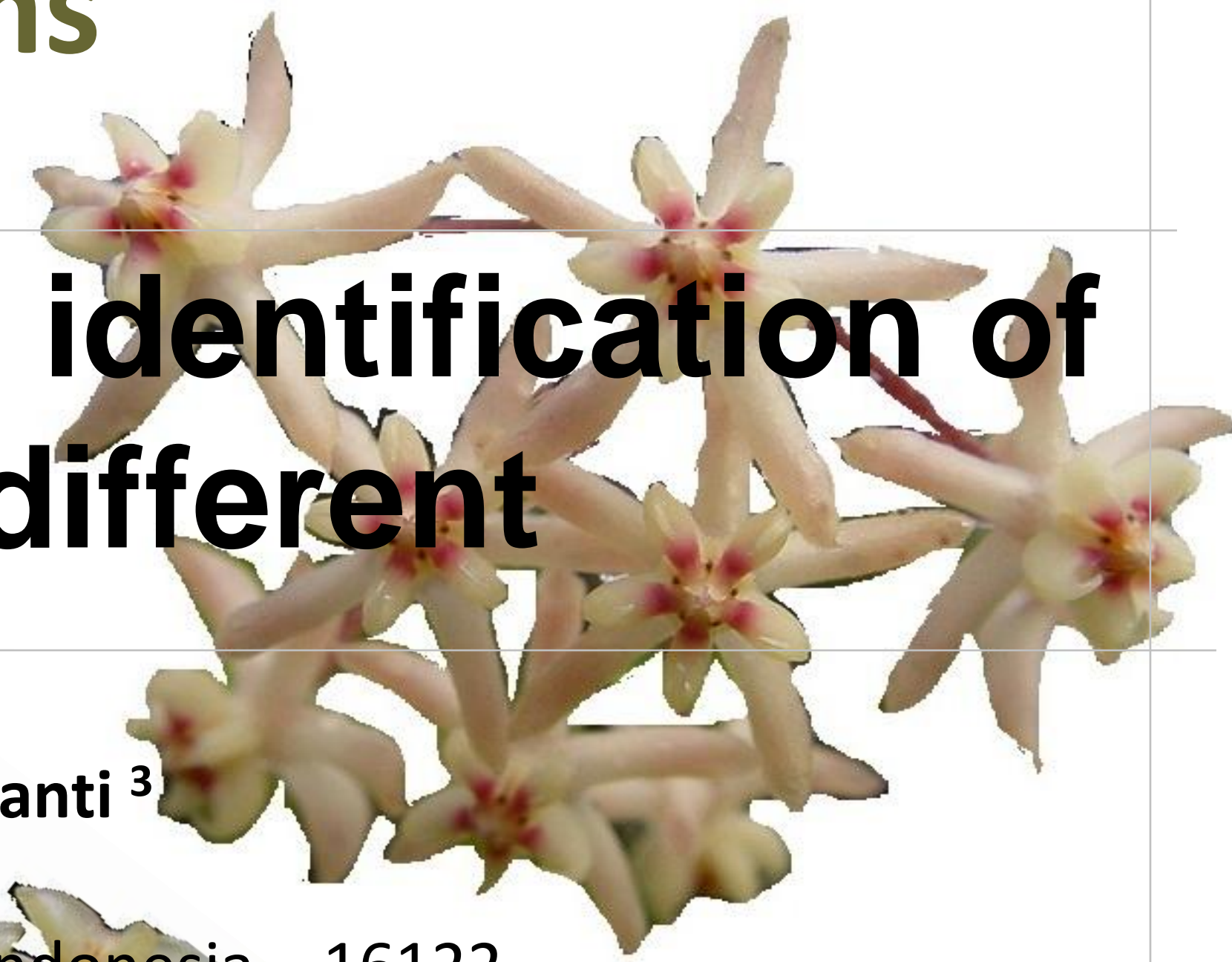
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Genetic diversity and DNA Barcode based identification of *Hoya* (Apocynaceae: Asclepiadoideae) in different transformation systems in Jambi

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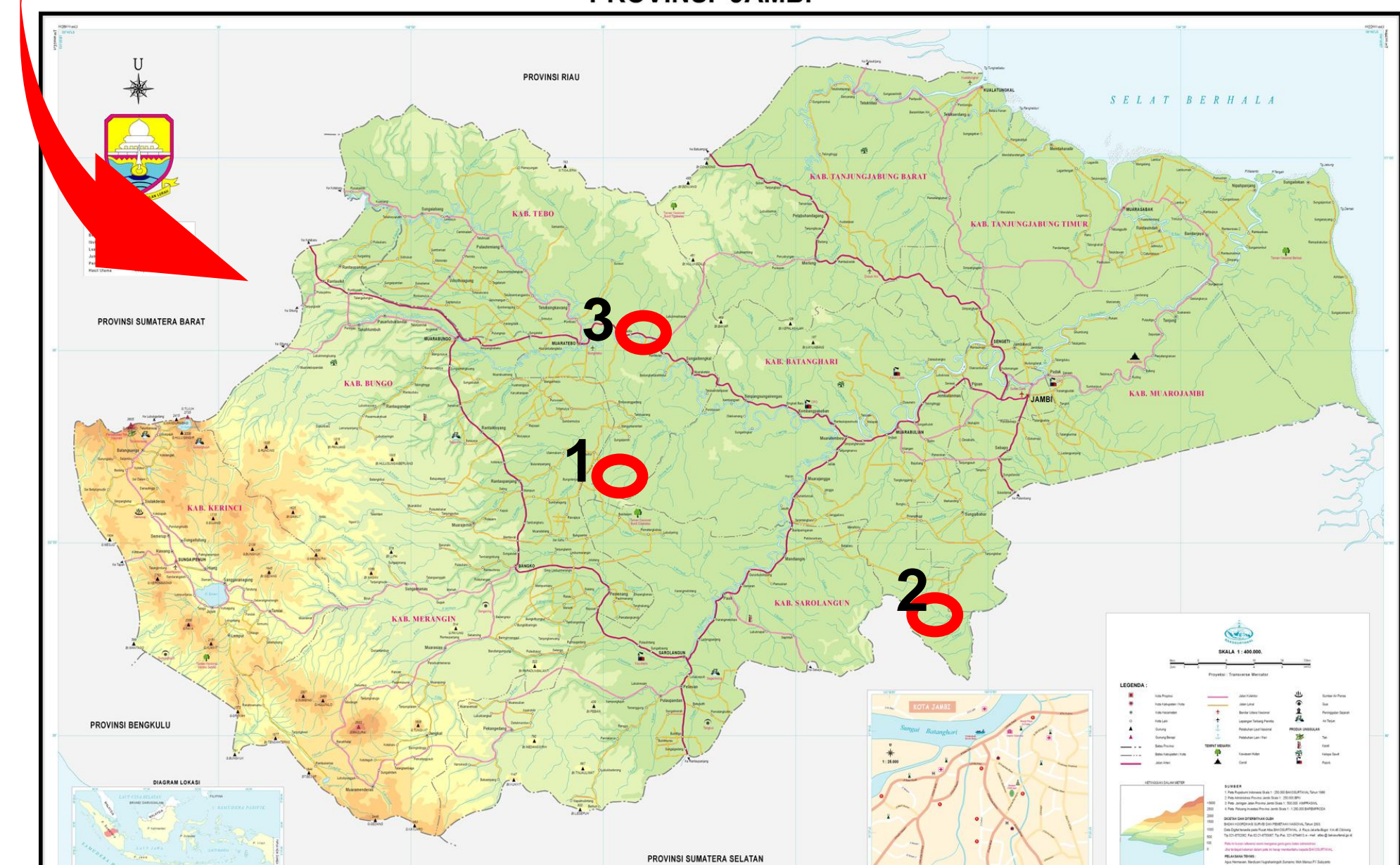
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