

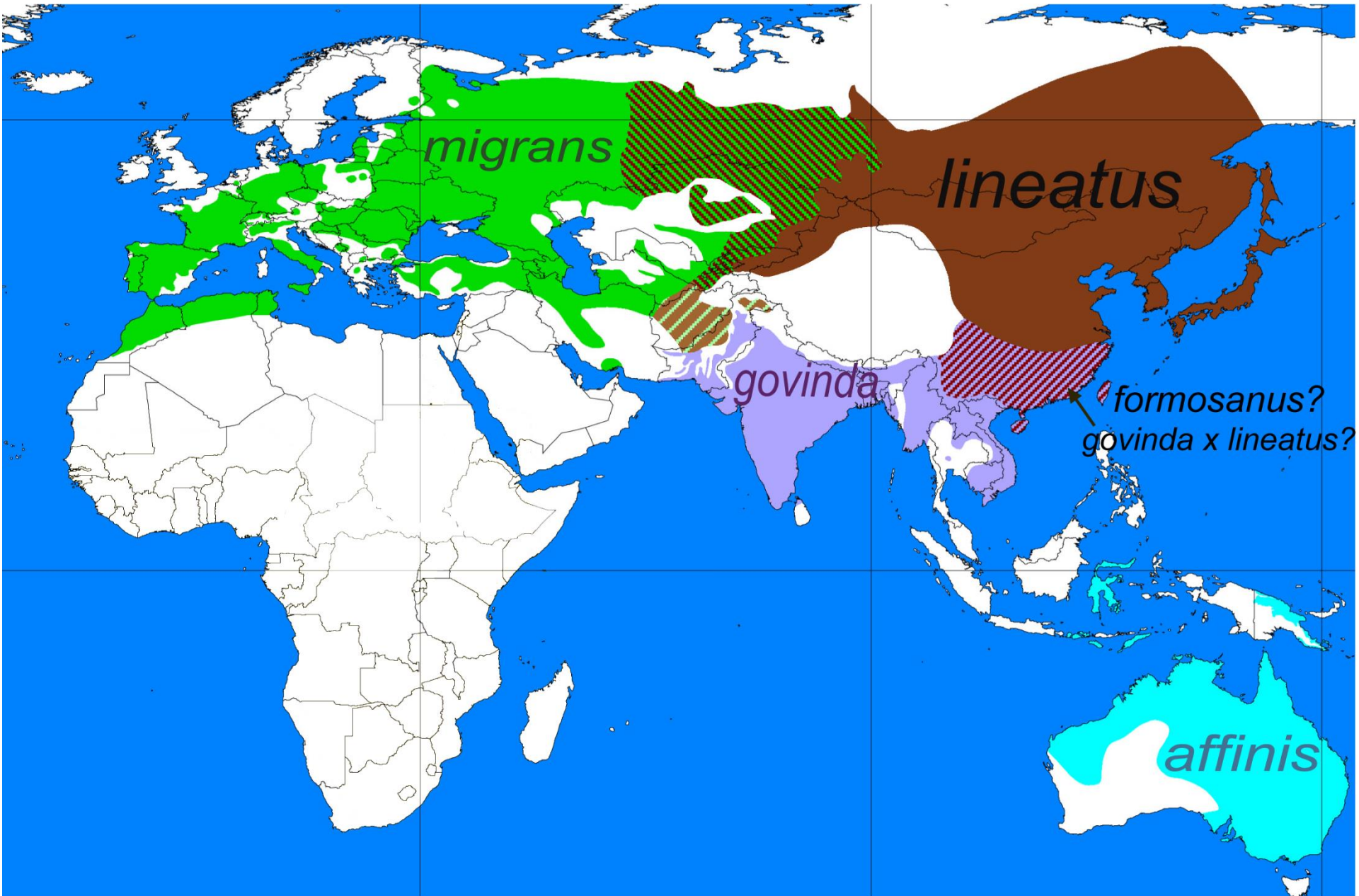
**Genetic relatedness of the black kite (*Milvus migrans*)
populations of Asia, Taiwan, Japan and Australia:
does Taiwanese subspecies exist?**

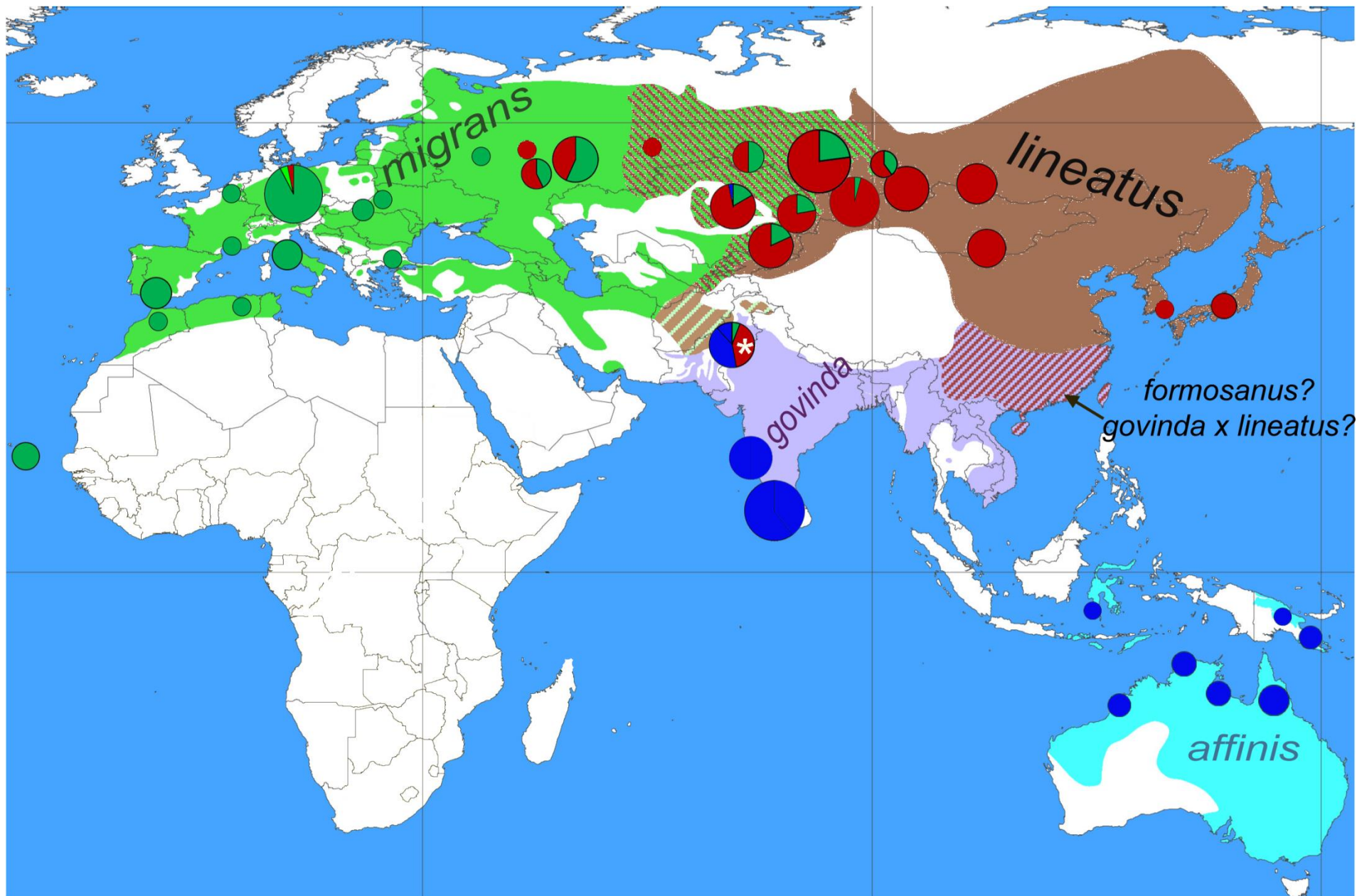


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Milvus migrans subspecies



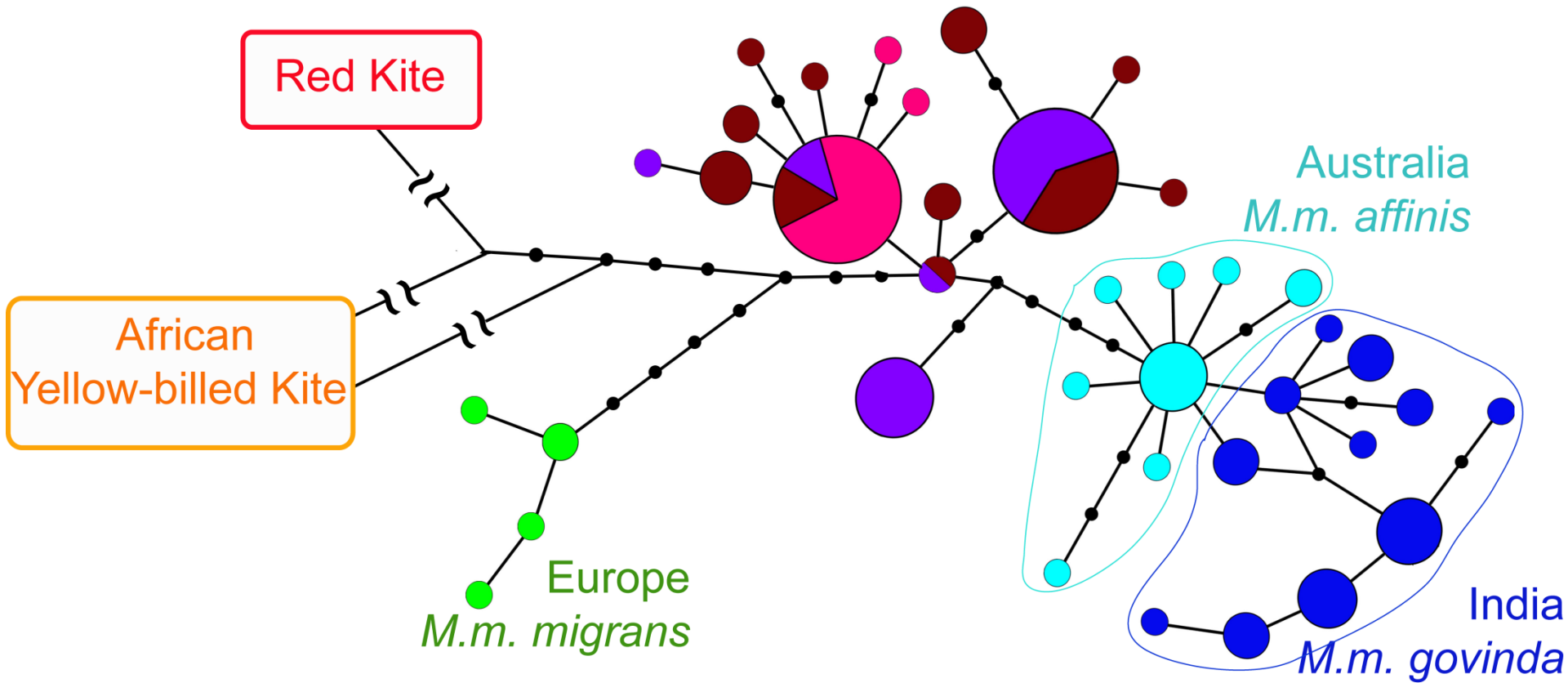


Andreyenkova N.G., Karyakin I.V., Starikov I.J., Sauer-Gürth H., Literák I., Andreyenkov O.V., Schneider E.P., Bekmansurov R.H., Alexeyenko M.N., Wink M., Zhimulev I.F. Phylogeography and demographic history of the black kite *Milvus migrans*, a widespread raptor in Eurasia, Australia and Africa. *Journal of Avian Biology* 2021: e02822.

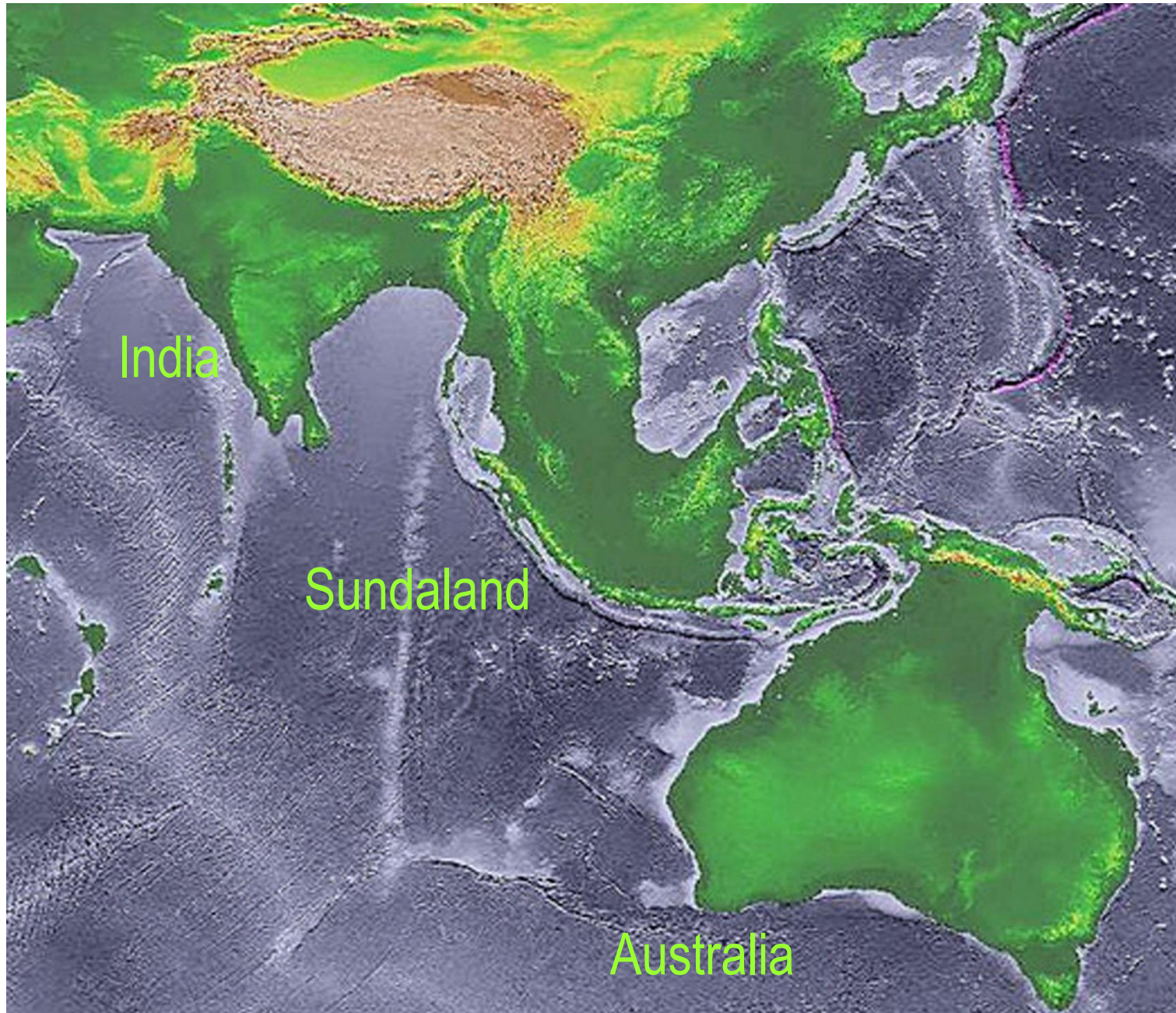
CytB + *ND2* mitochondrial genes

Haplotype network

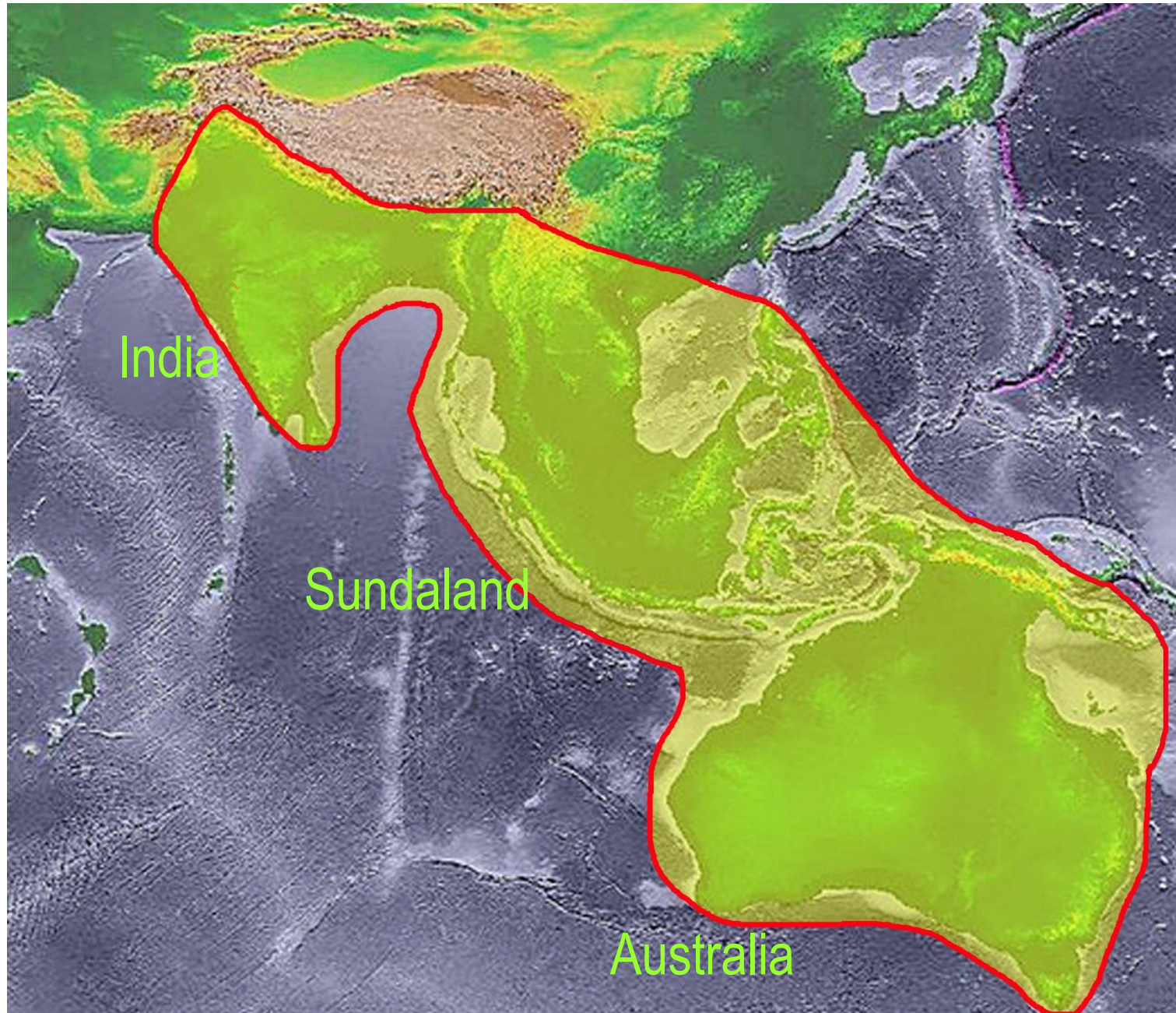
Black Kite
Milvus migrans



Last Glacial Maximum, 26 500 - 19 000 years ago

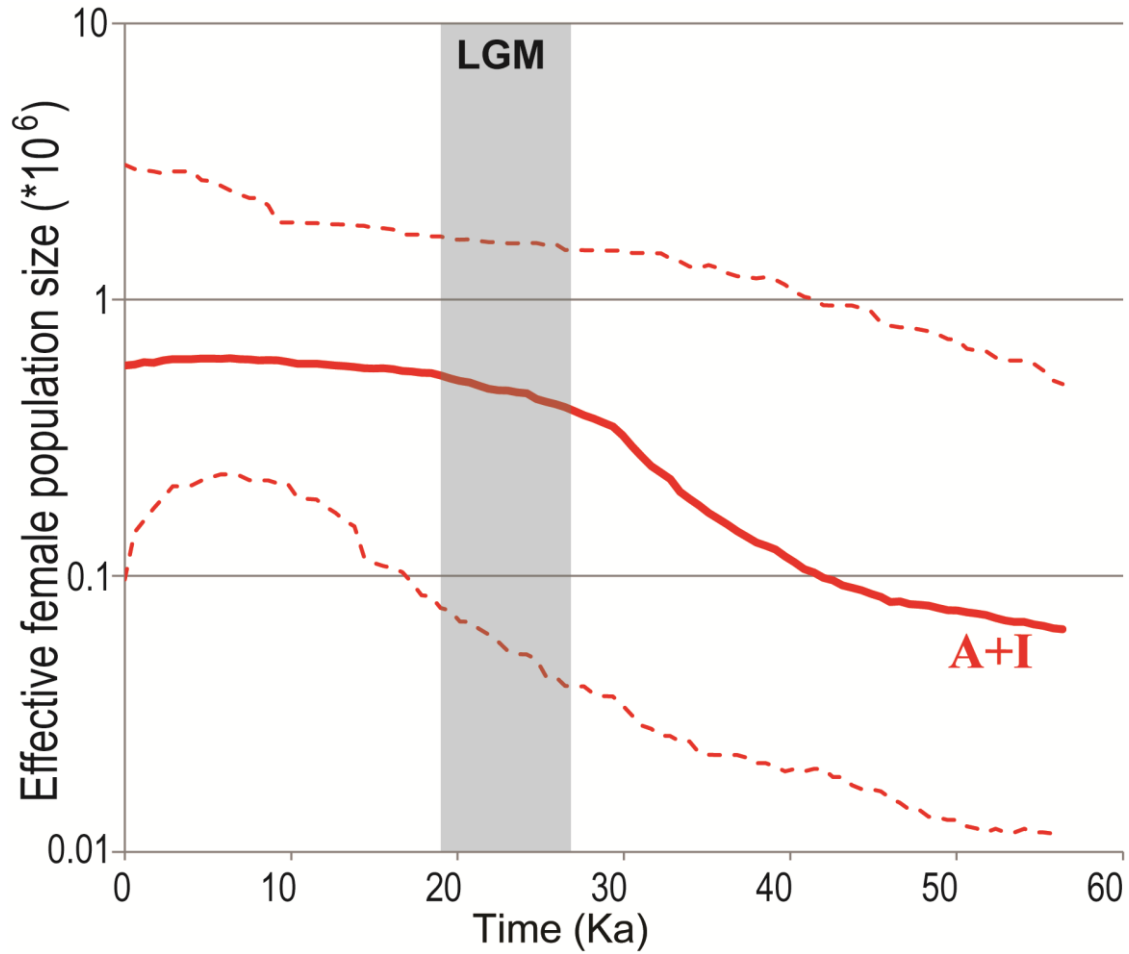


Last Glacial Maximum, 26 500 - 19 000 years ago

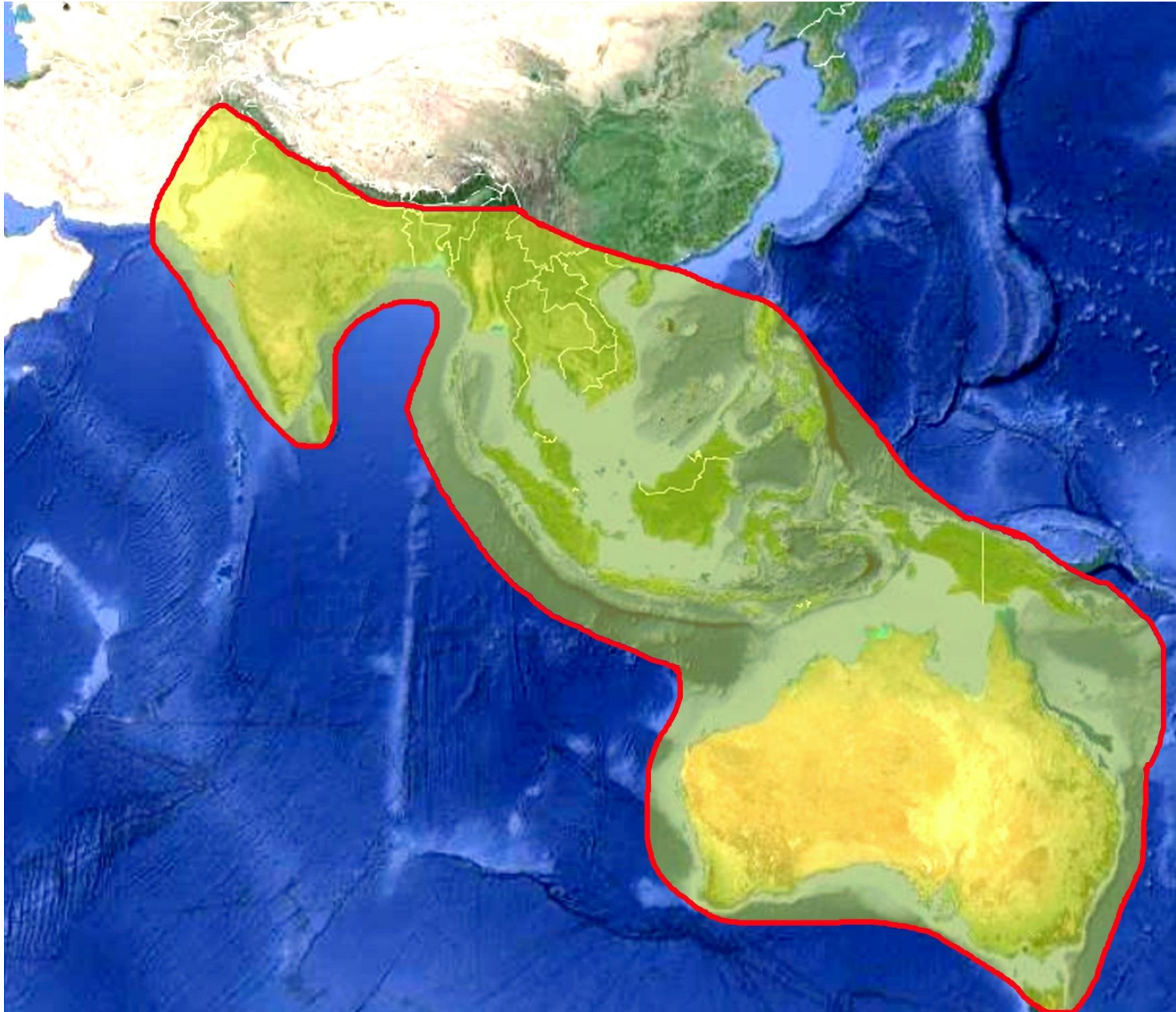


Black kite
population

Bayesian skyline plots for effective population size in A+I (India and Australia).



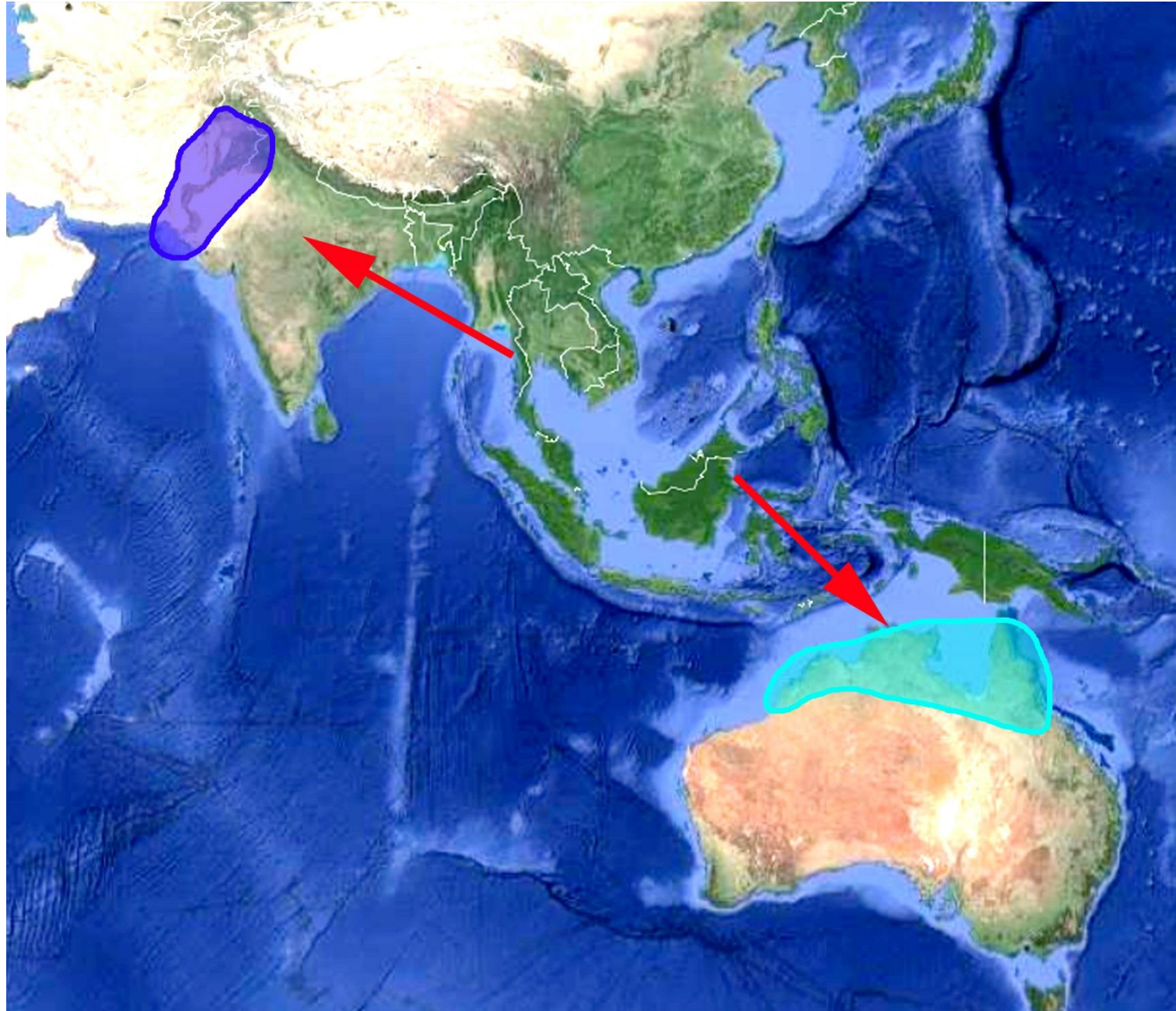
Maximum summer monsoon intensity , 10 500 - 5 000 years ago



↑ sea level
humidity
forests

↓ Black kite
population

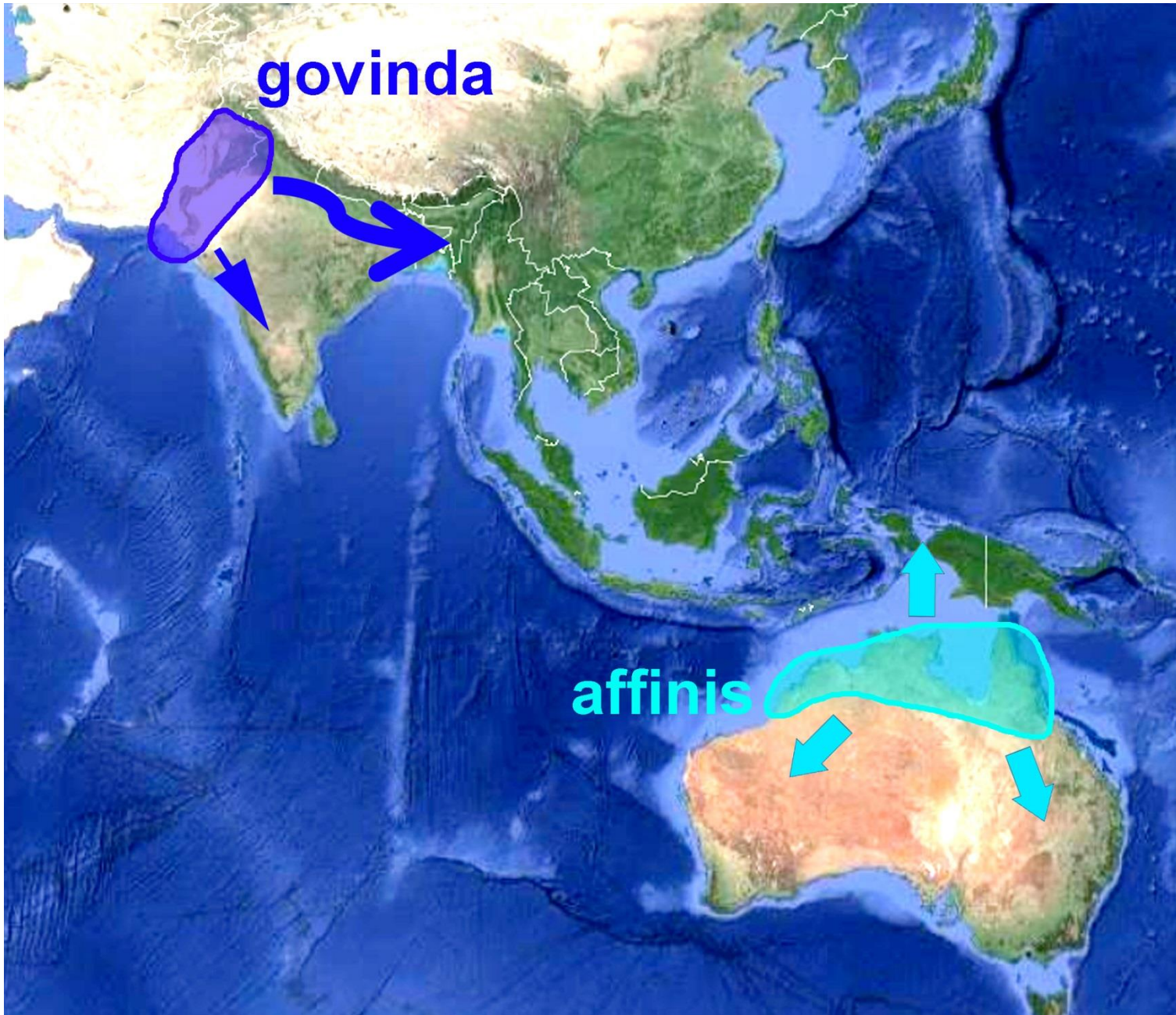
Maximum summer monsoon intensity , 10 500 - 5 000 years ago



↑ sea level
humidity
forests

↓ Black kite
population

Weakening of the monsoon, over about the last 5 000 years



↓ humidity
forests

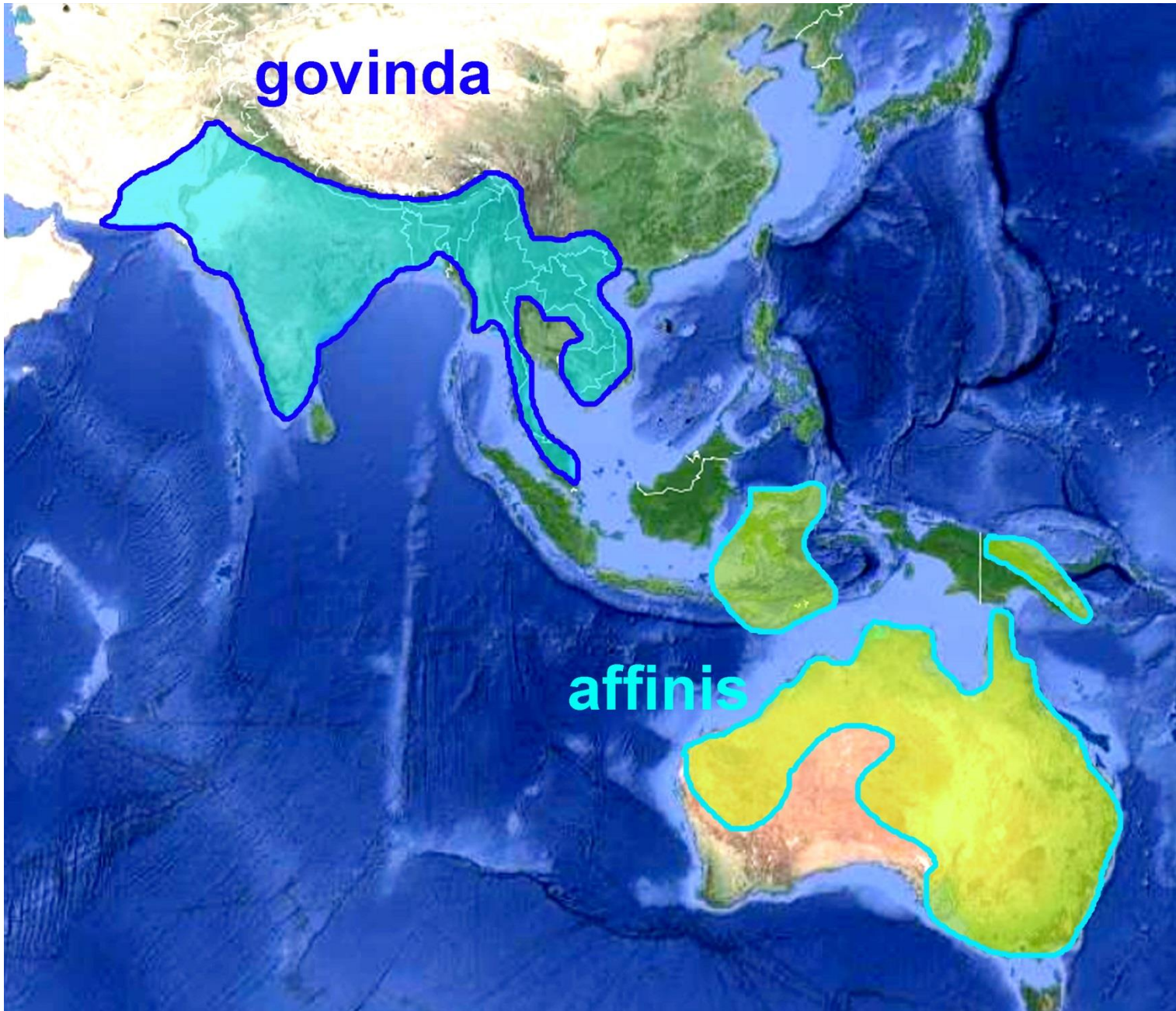
↑ Black kite
population

Present day

govinda

affinis

↑
Black kite
population



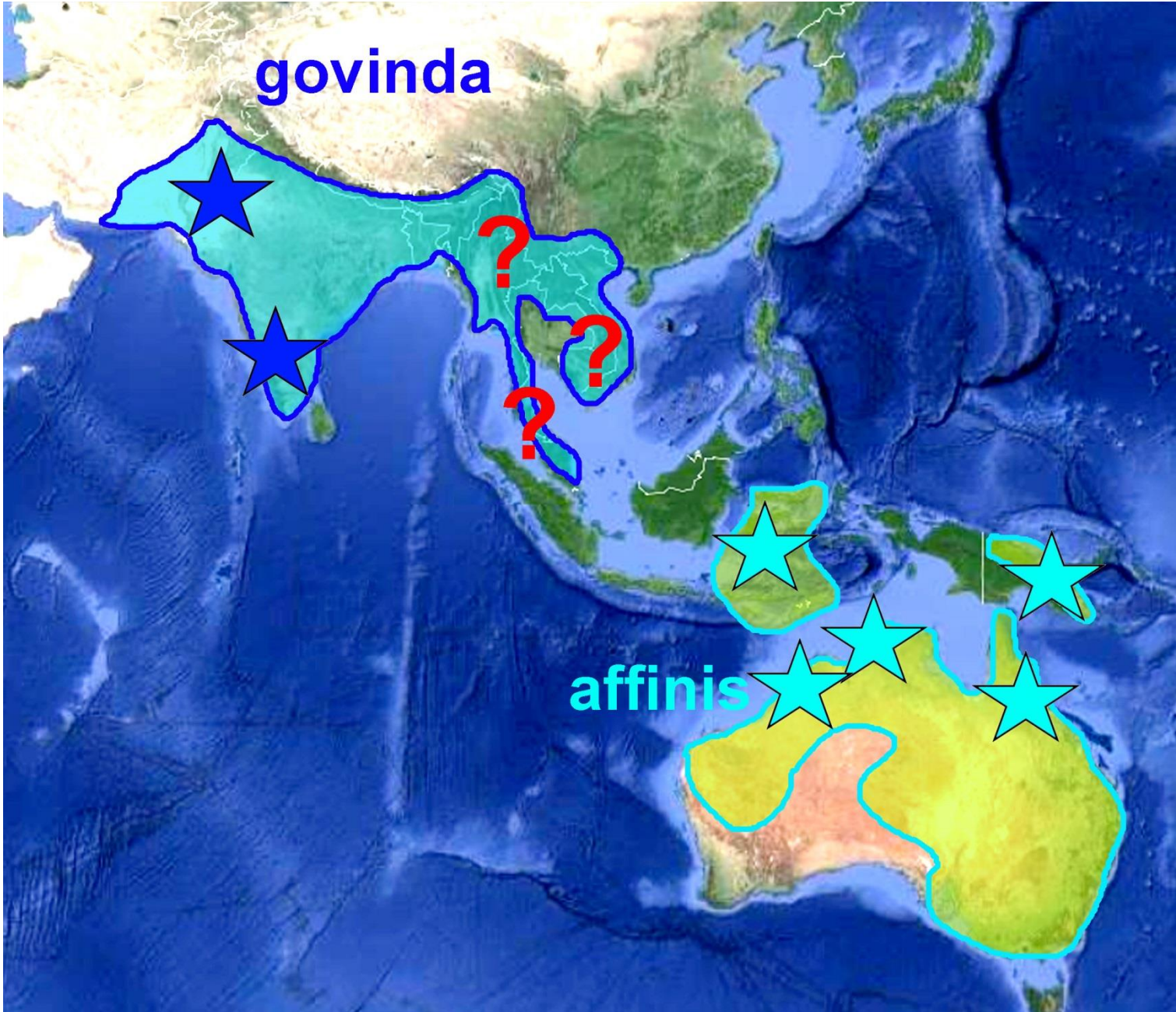
Present day

govinda

affinis

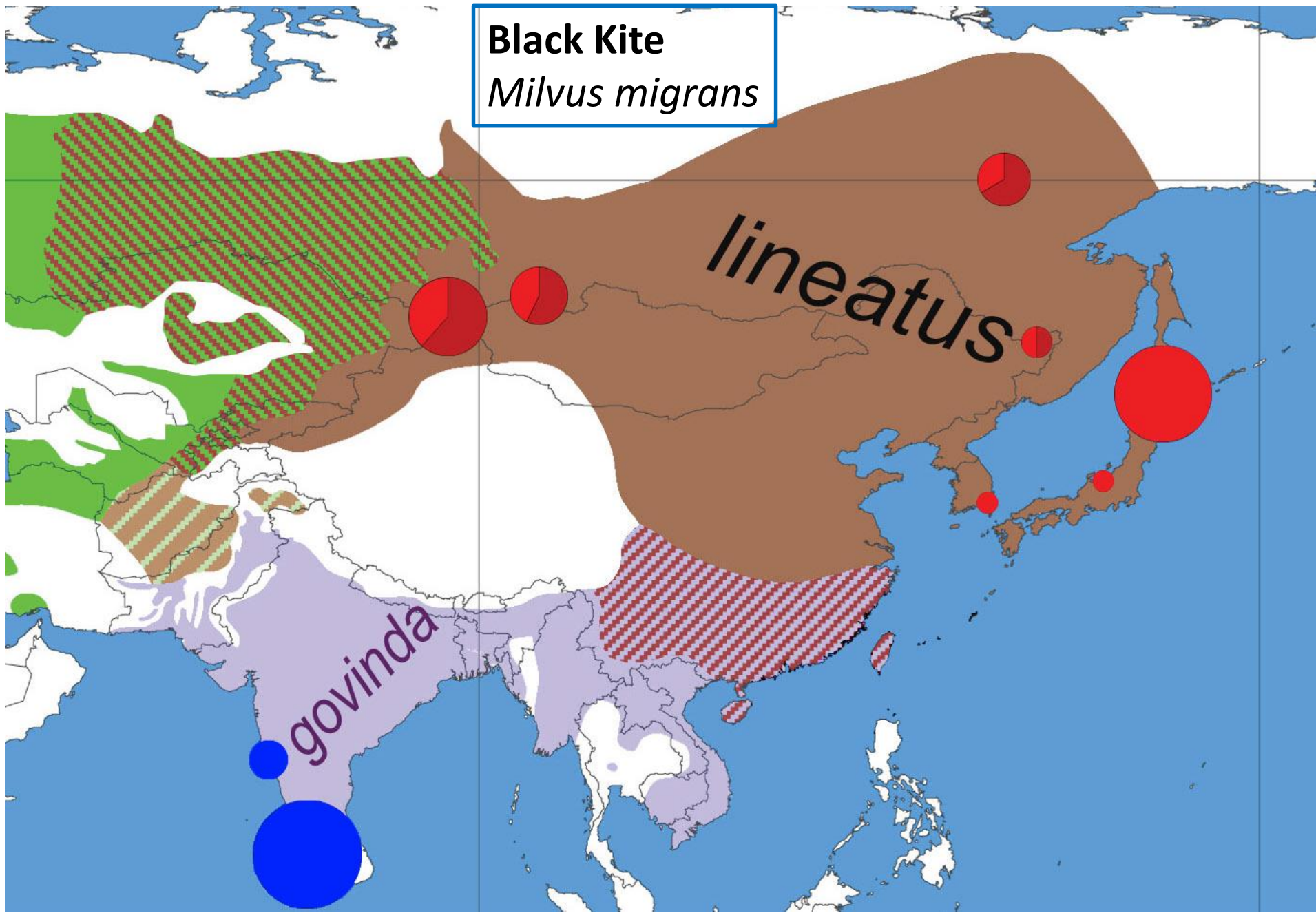
★ Localities of samples collection

↑ Black kite population



CytB + ND2 haplogroups

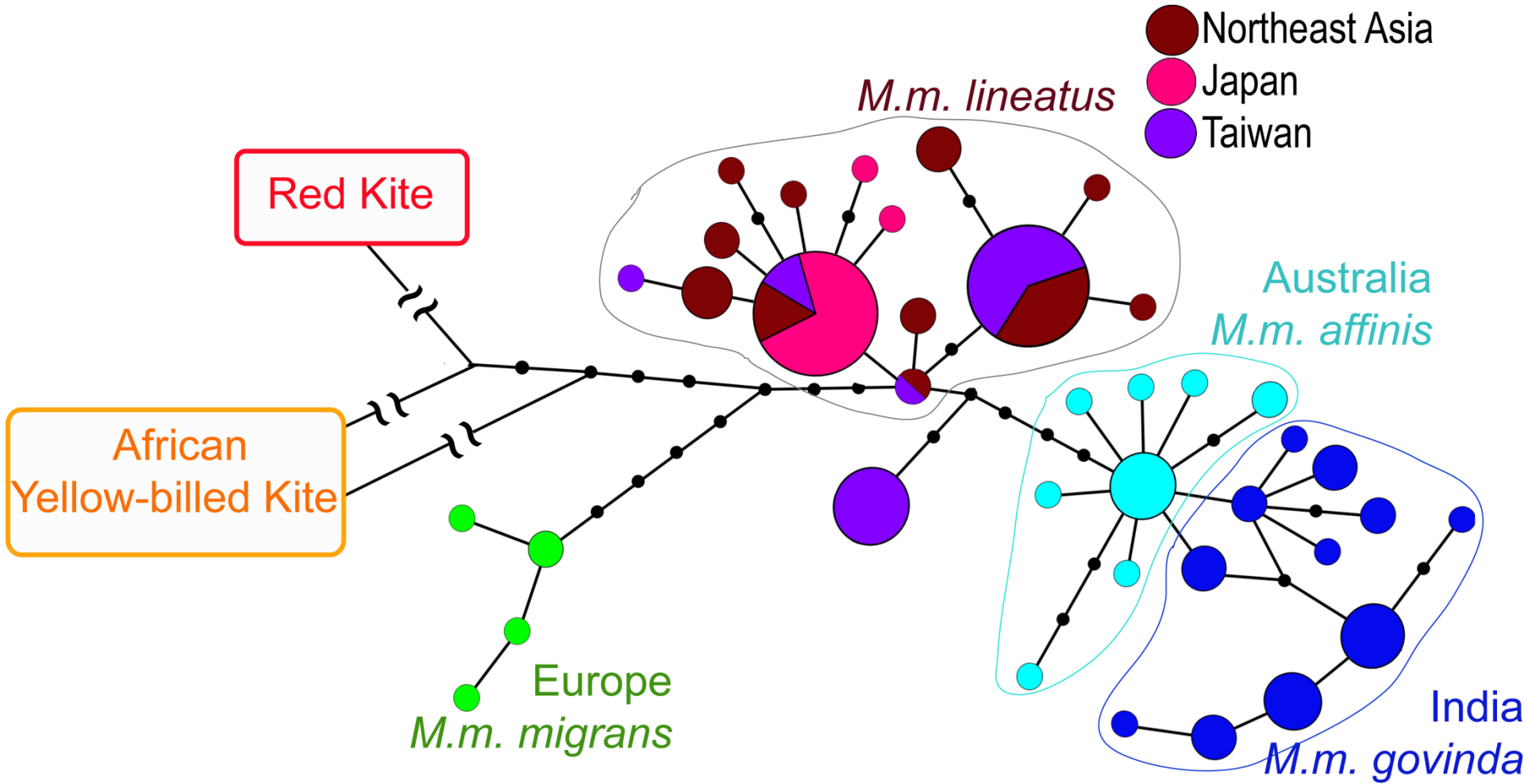
Black Kite
Milvus migrans



CytB + ND2 mitochondrial genes

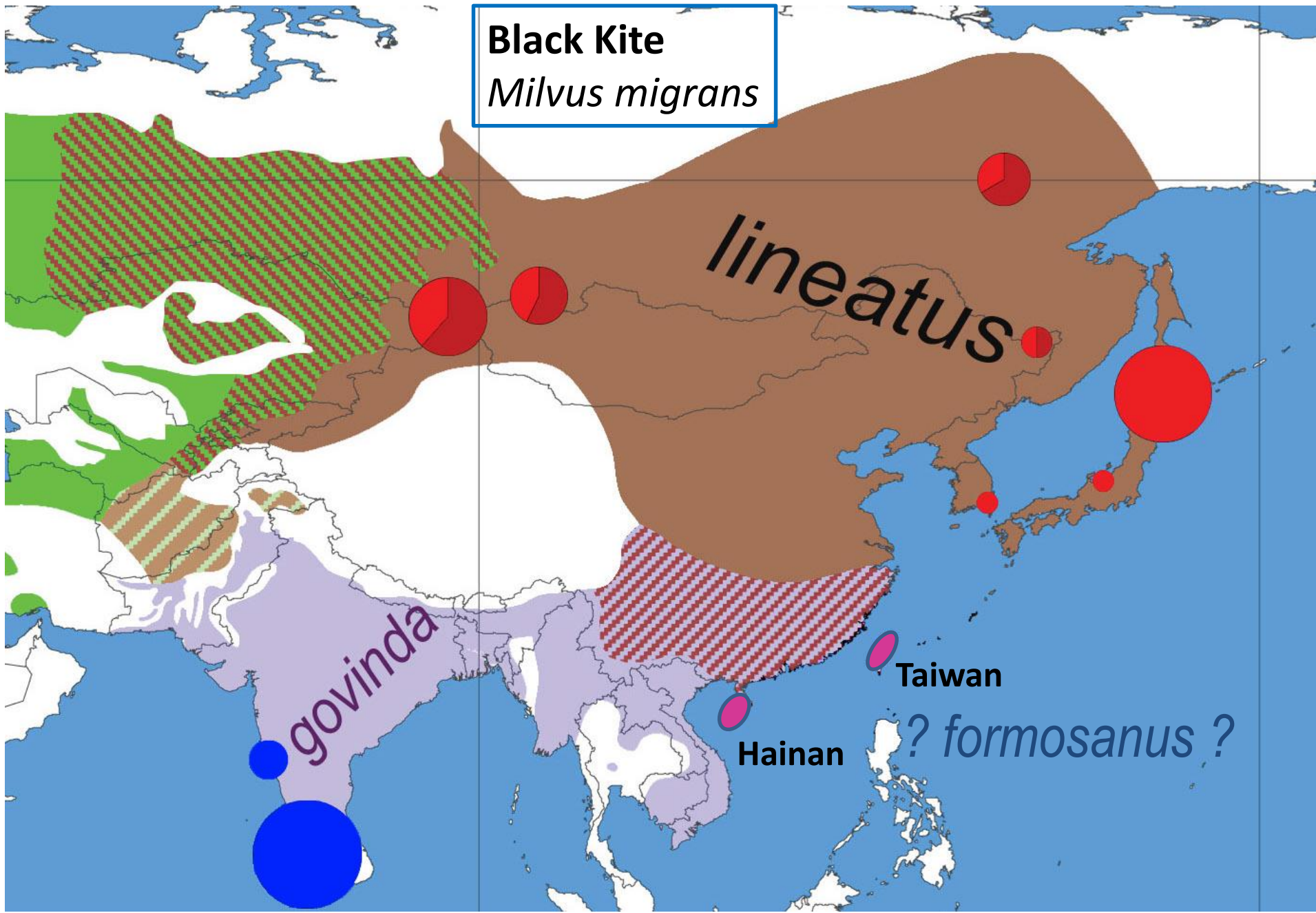
Haplotype network

Black Kite
Milvus migrans

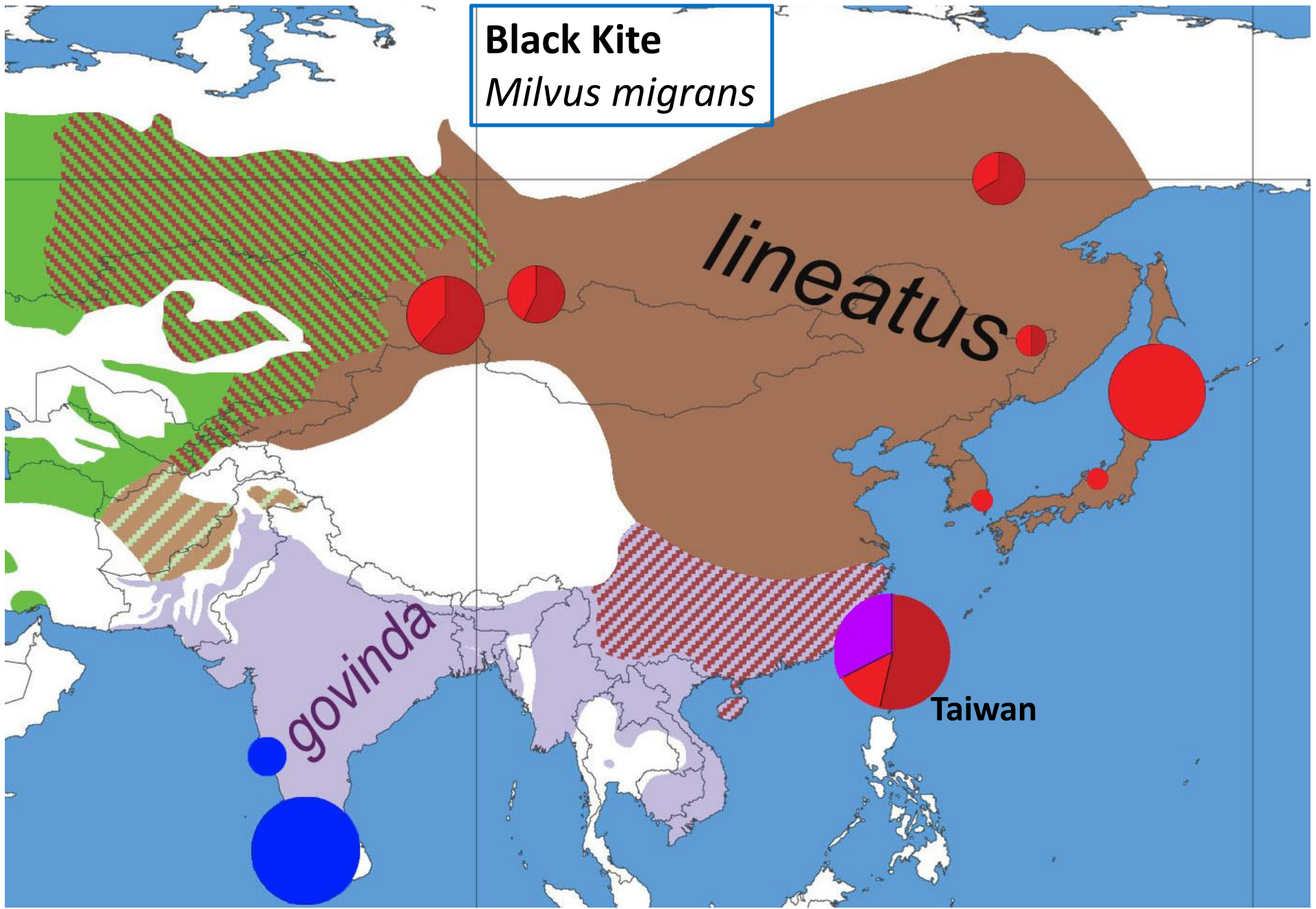


CytB + ND2 haplogroups

Black Kite
Milvus migrans



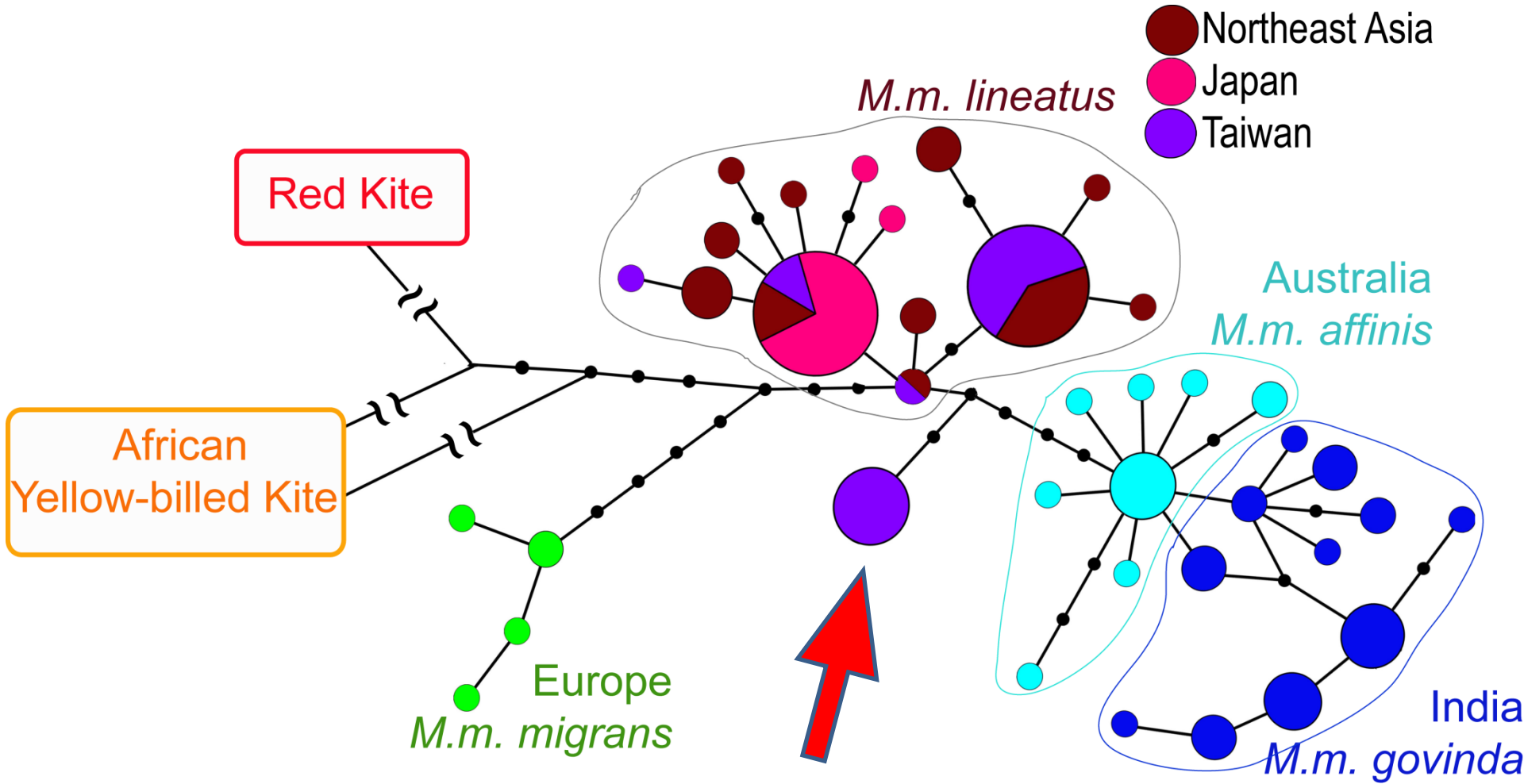
CytB + ND2 haplogroups



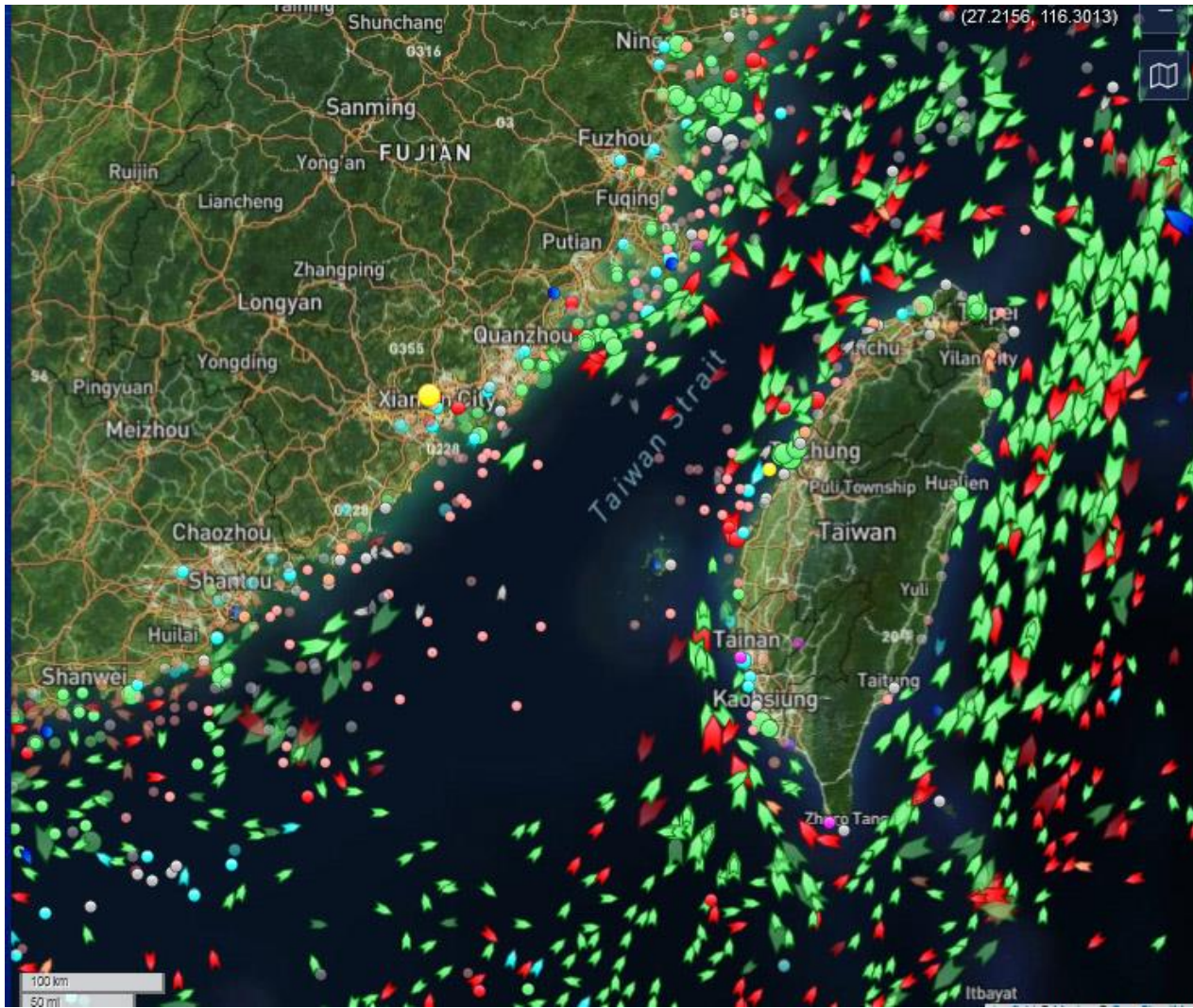
CytB + *ND2* mitochondrial genes

Haplotype network

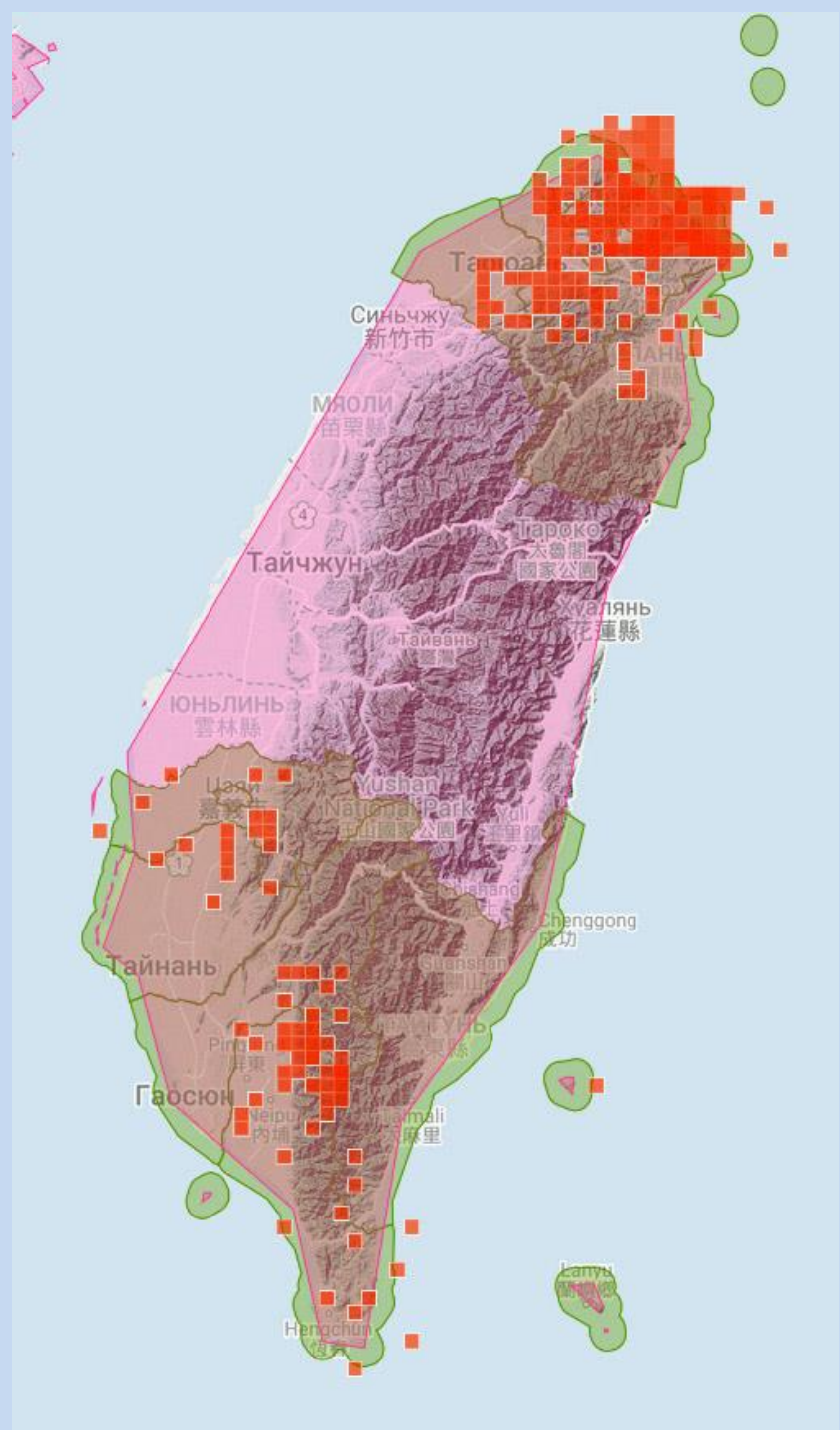
Black Kite
Milvus migrans



TAIWAN STRAIT SHIP TRAFFIC



Black Kite
Milvus migrans



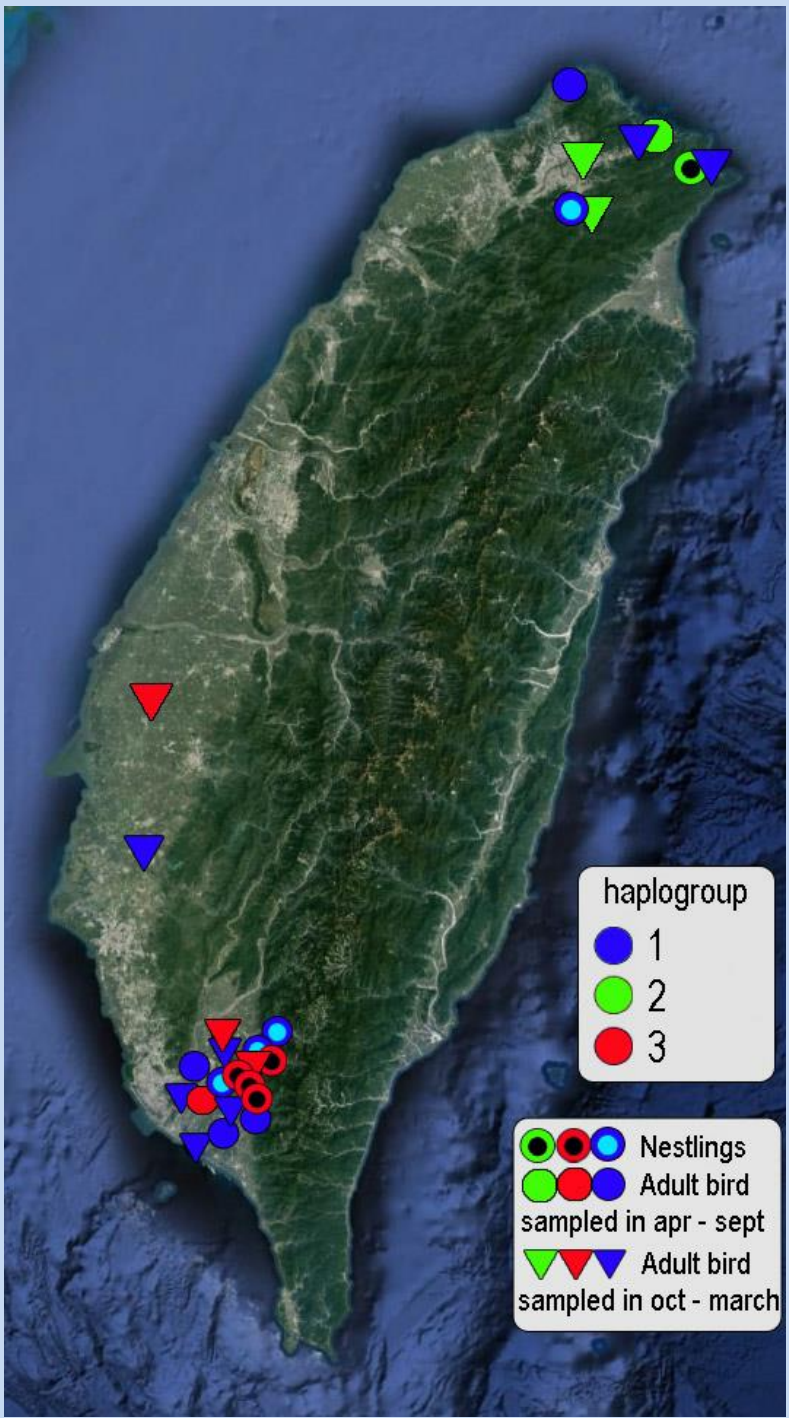
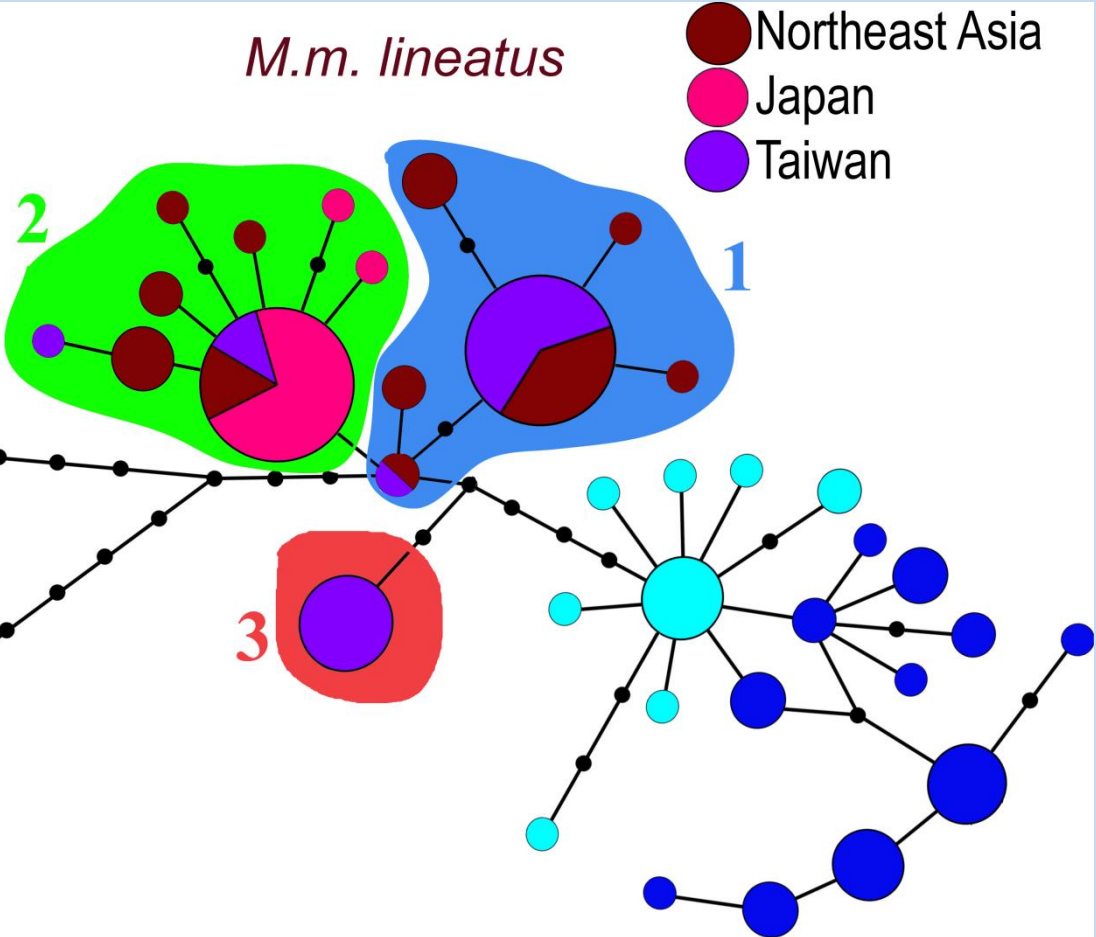
By inaturalist.ca

Black Kite

Milvus migrans

M.m. lineatus

- Northeast Asia
- Japan
- Taiwan



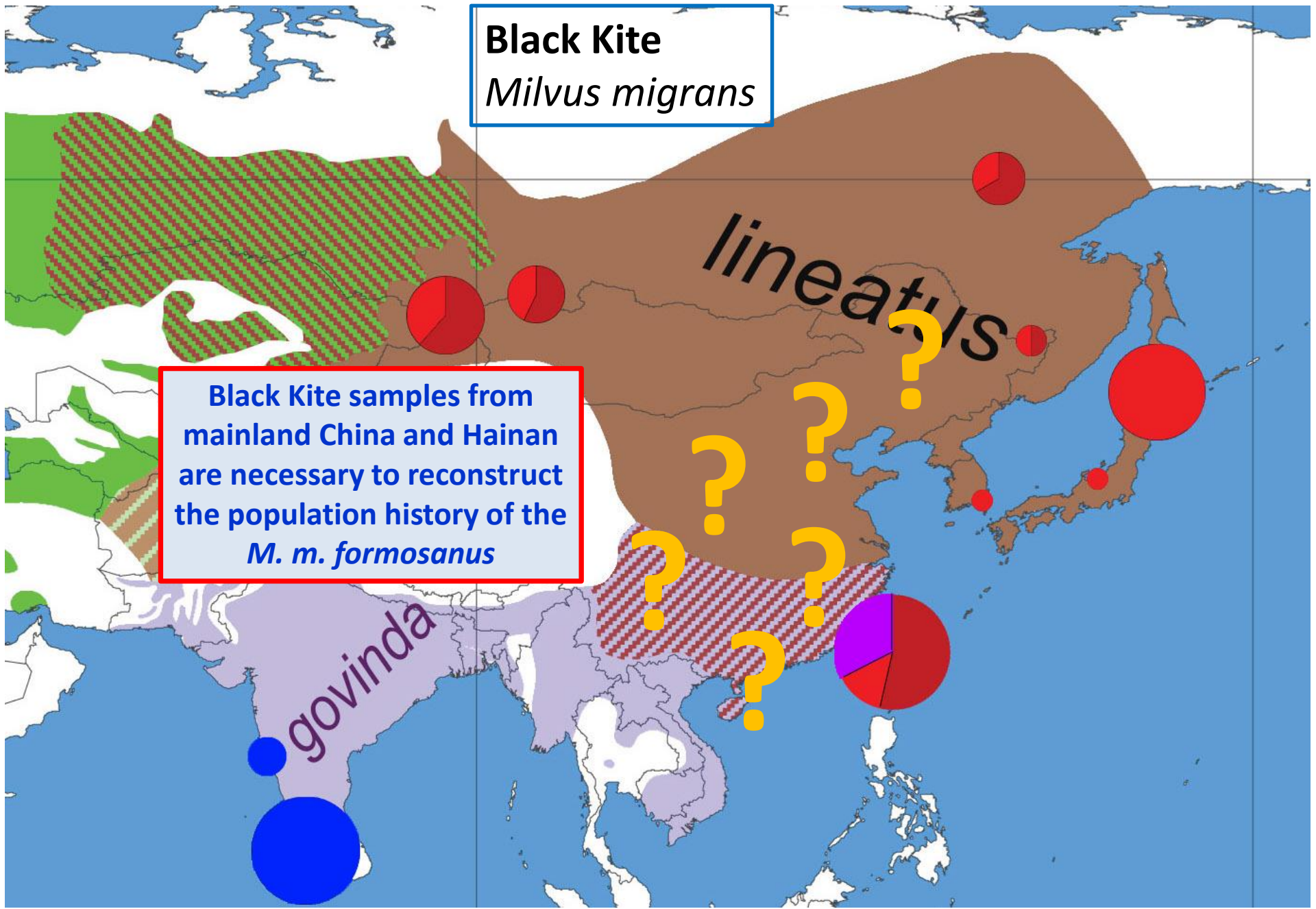
- haplogroup
- 1
 - 2
 - 3

- Nestlings
- Adult bird sampled in apr - sept
- ▽ Adult bird sampled in oct - march

CytB + ND2 haplogroups

Black Kite
Milvus migrans

Black Kite samples from mainland China and Hainan are necessary to reconstruct the population history of the *M. m. formosanus*



Thank you for your attention!

