

DIVERSITY & DISTRIBUTION OF AVIAN FAUNA IN WESTERN GHATS

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WESTERN GHATS & BIRDS

The Western Ghats is a continuous mountain chain parallel to the western coast of India traversing six states, Gujarat, Maharashtra, Goa, Karnataka, Kerala, and Tamil Nadu. The complex topography and climatic conditions helps in the presence of abundance fauna and flora in this region. At least 325 globally threatened species are present in the Western Ghats region and many species of plants and animals are yet to be discovered.

Birds are one of the best indicators of environmental quality of the ecosystem and perform various roles such as scavenger, pollinator, and predators of insect pests. There are 9702 bird species identified across the globe out of that around 1300 species are present in the Indian subcontinent. A large percentage of threatened and rare species of birds were reported from the WG region and still reporting.

STUDY AREA

Latitude: 8°0' to 22°26'N

Longitude: 72°55' to 78°11'E.

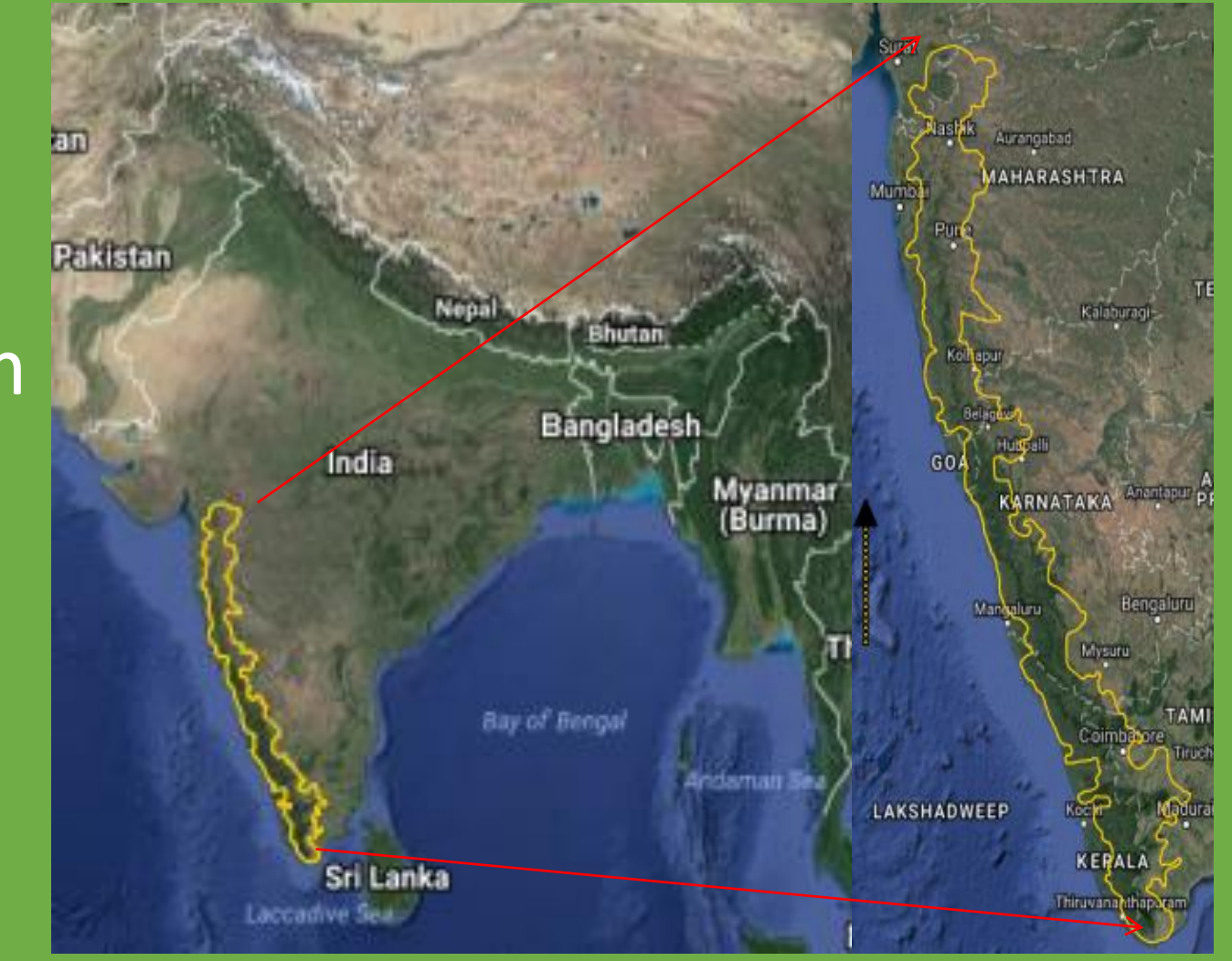
Covering distance: 1600km

Area: 1,64,280 sq.km.

Altitude range: 0-2674m

Annual average rainfall: 2500 mm.

Mean temp. ranges: 20-24°C.

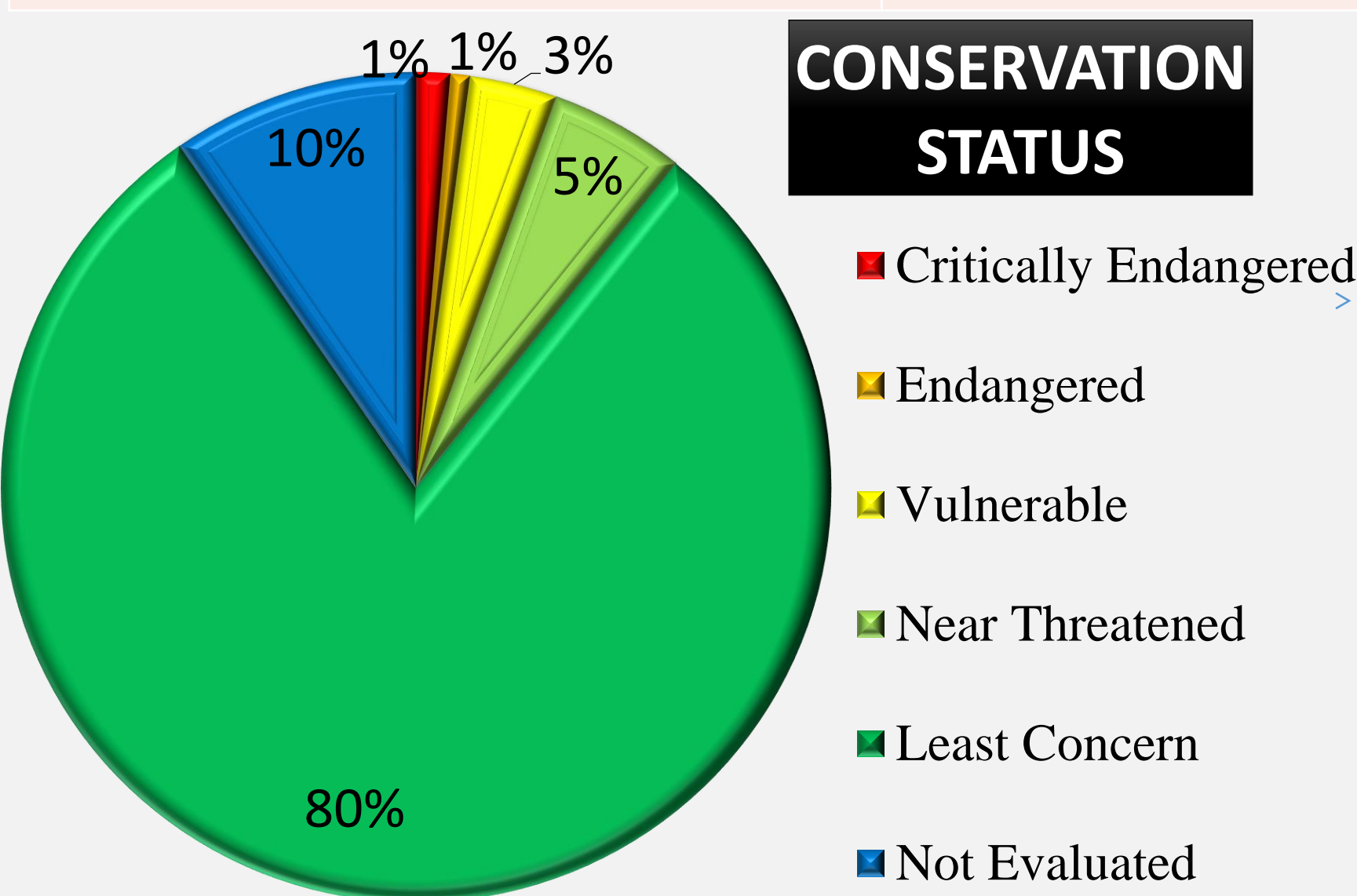


AVIAN DISTRIBUTION IN WG

Birds are the widely distributed Fauna present in the Western Ghats and there are 529 avian species across 119 locations.

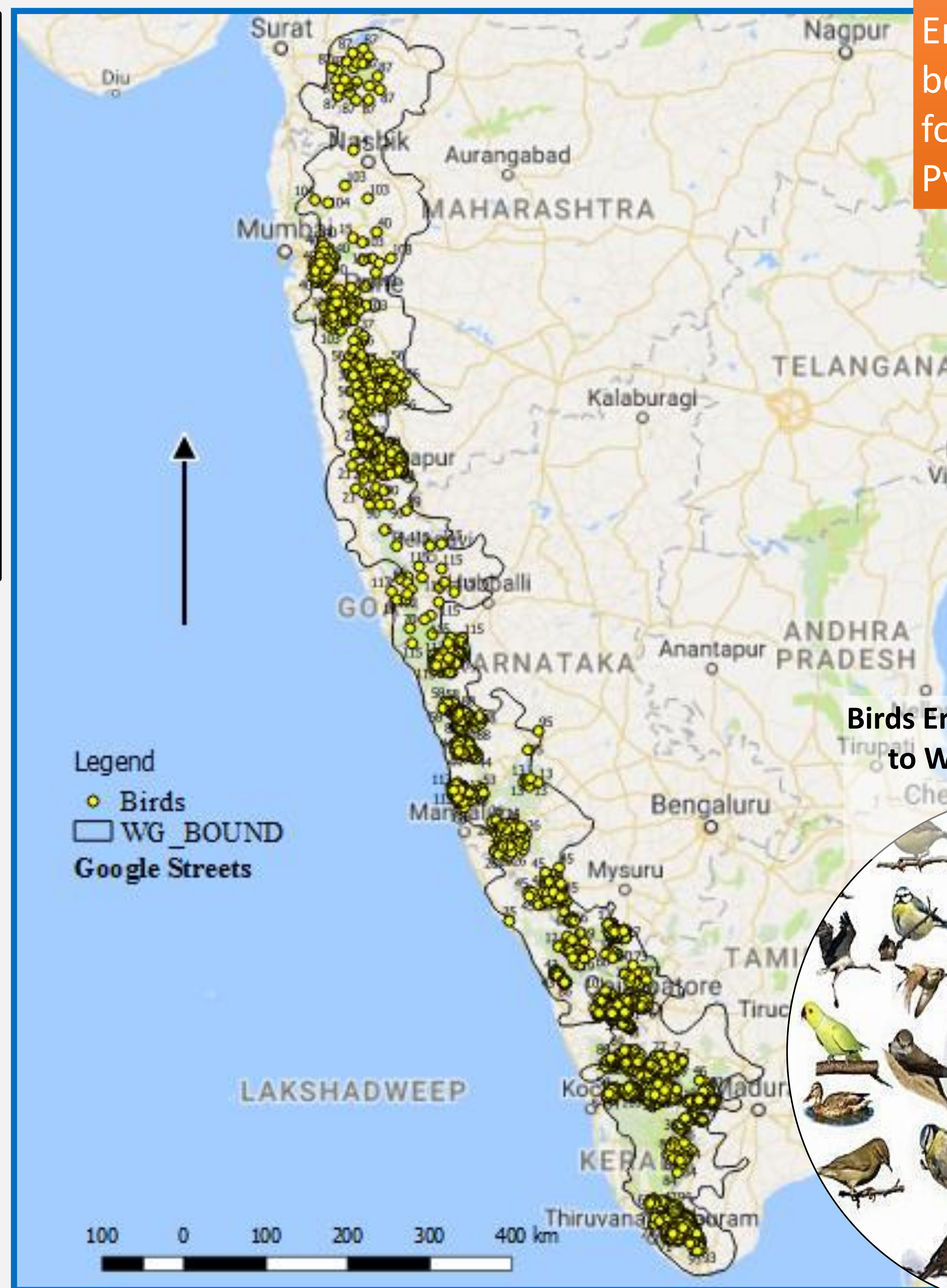
WG has 85 avian families. Among these Accipitridae is the largest family (43 sp.). Majority of the avian families are distributed across the WG regions of Maharashtra, Karnataka, Kerala, and Tamil Nadu.

Total Number of Species	529species
Number of Families	85
Endemic	28 species
Critically endangered	7 species
Endangered	4 species
Vulnerable	18 species
Near threatened	28 species
Least concern	427 species
Not evaluated	51 species



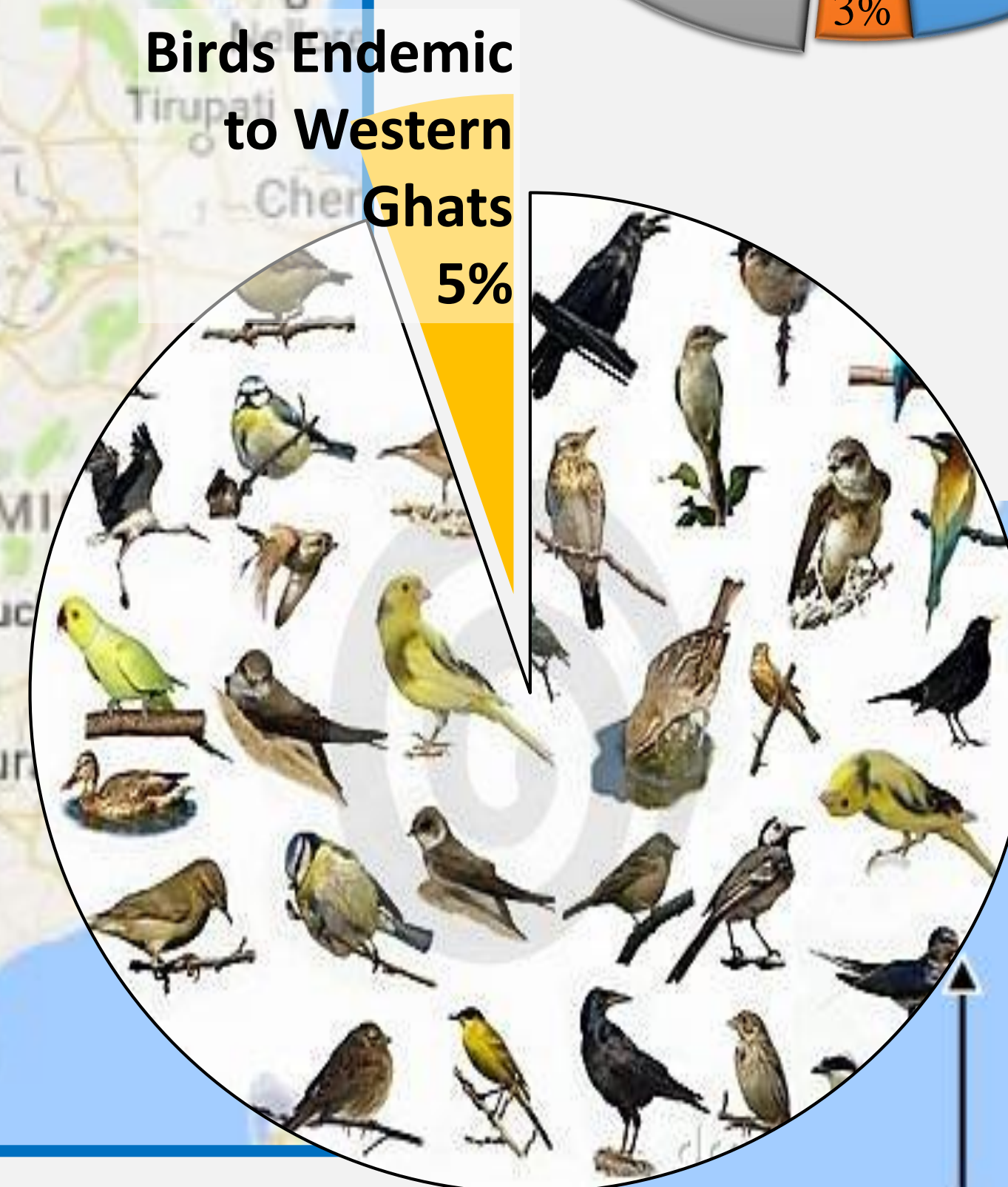
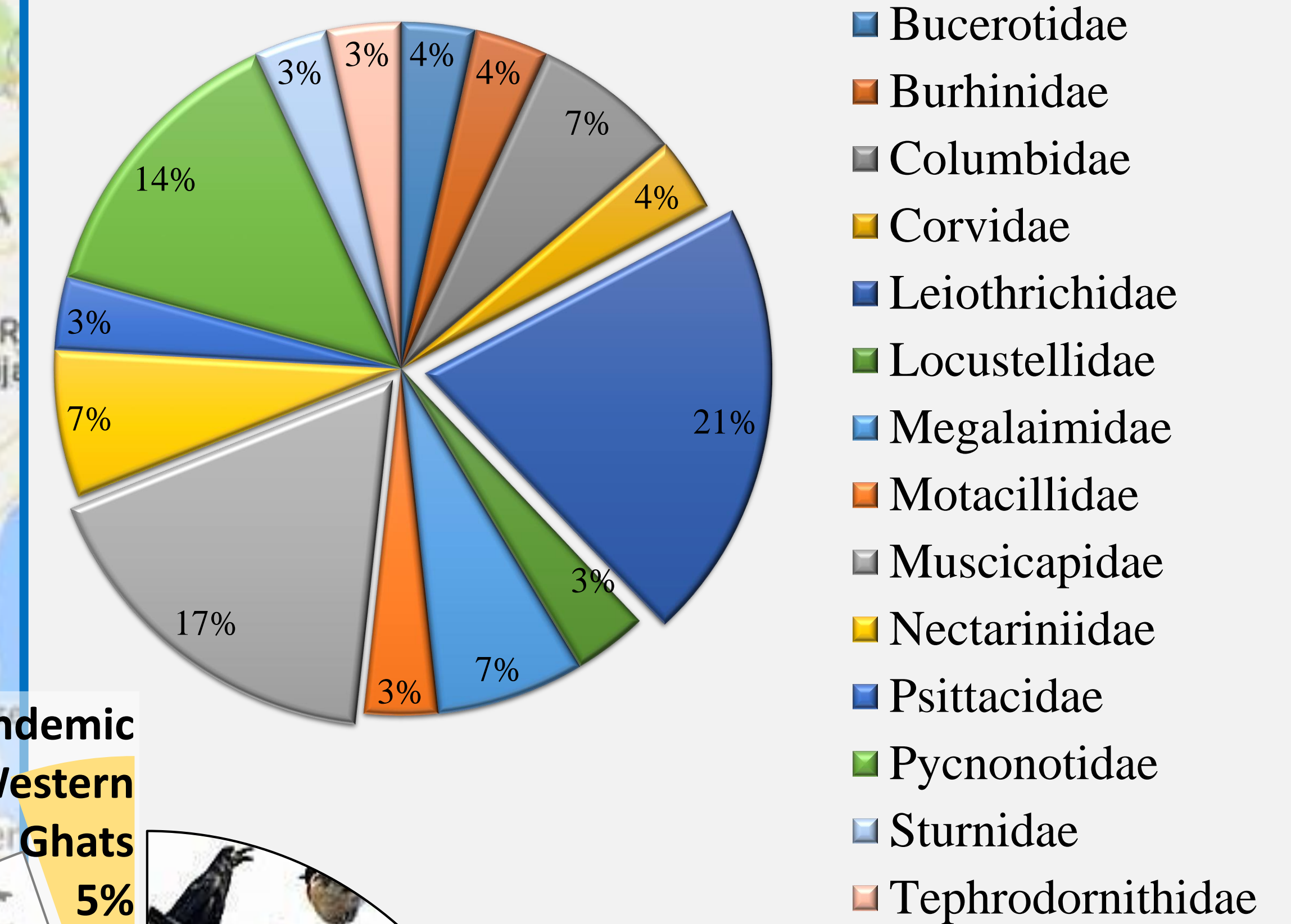
CE species: *Ardeotis nigriceps*, *Campephilus imperialis*, *Gyps bengalensis*, *Gyps indicus*, *Heteroglaux blewitti*, *Sarcogyps calvus* and *Vanellus gregarius* and were distributed across the WG regions of Maharashtra.

EN species: *Aquila nipalensis*, *Neophron percnopterus*, *Pavo muticus* and *Syphotides indicus*. Reported from the WG regions of Maharashtra, Karnataka, and Tamil Nadu.



ENDEMICISM

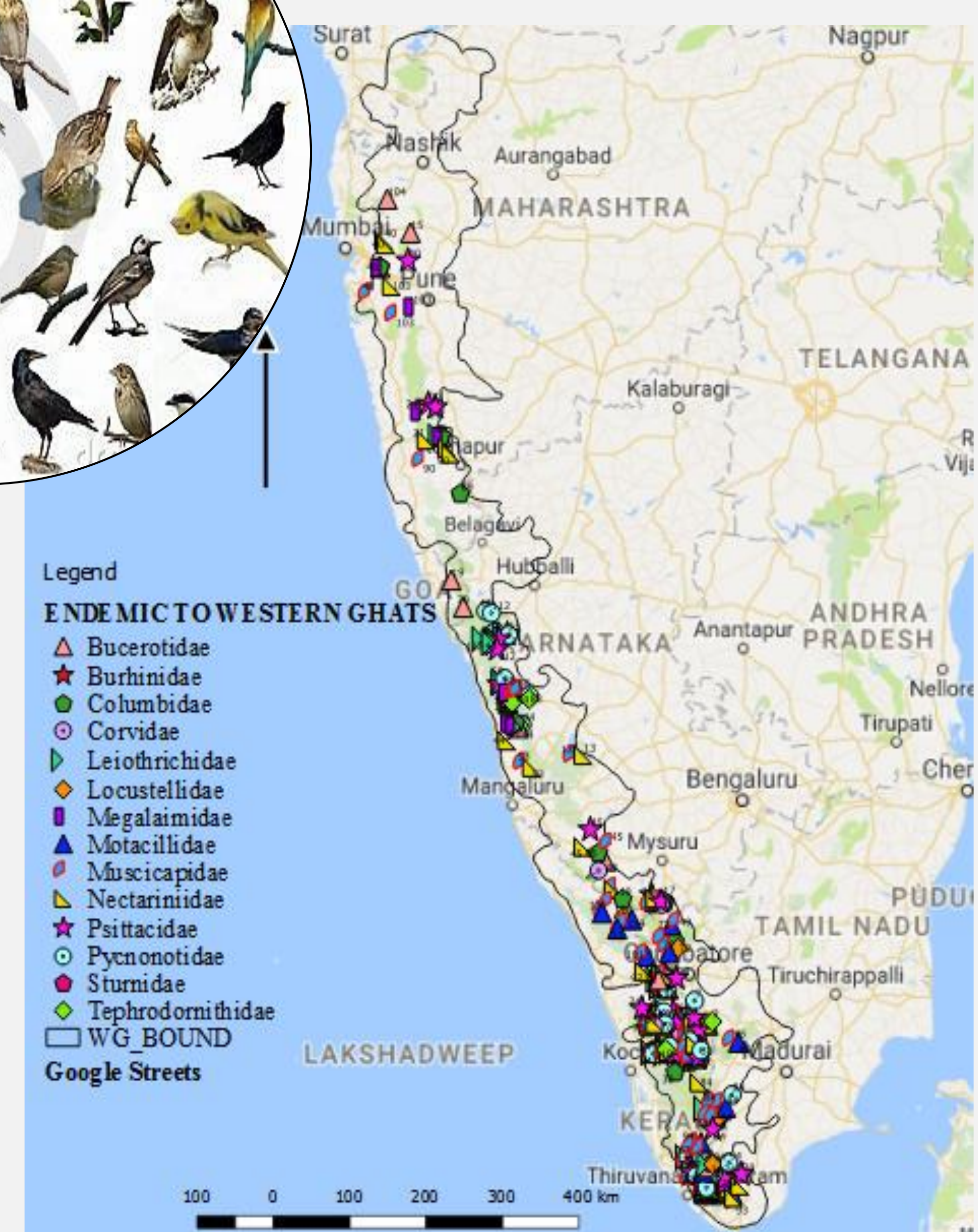
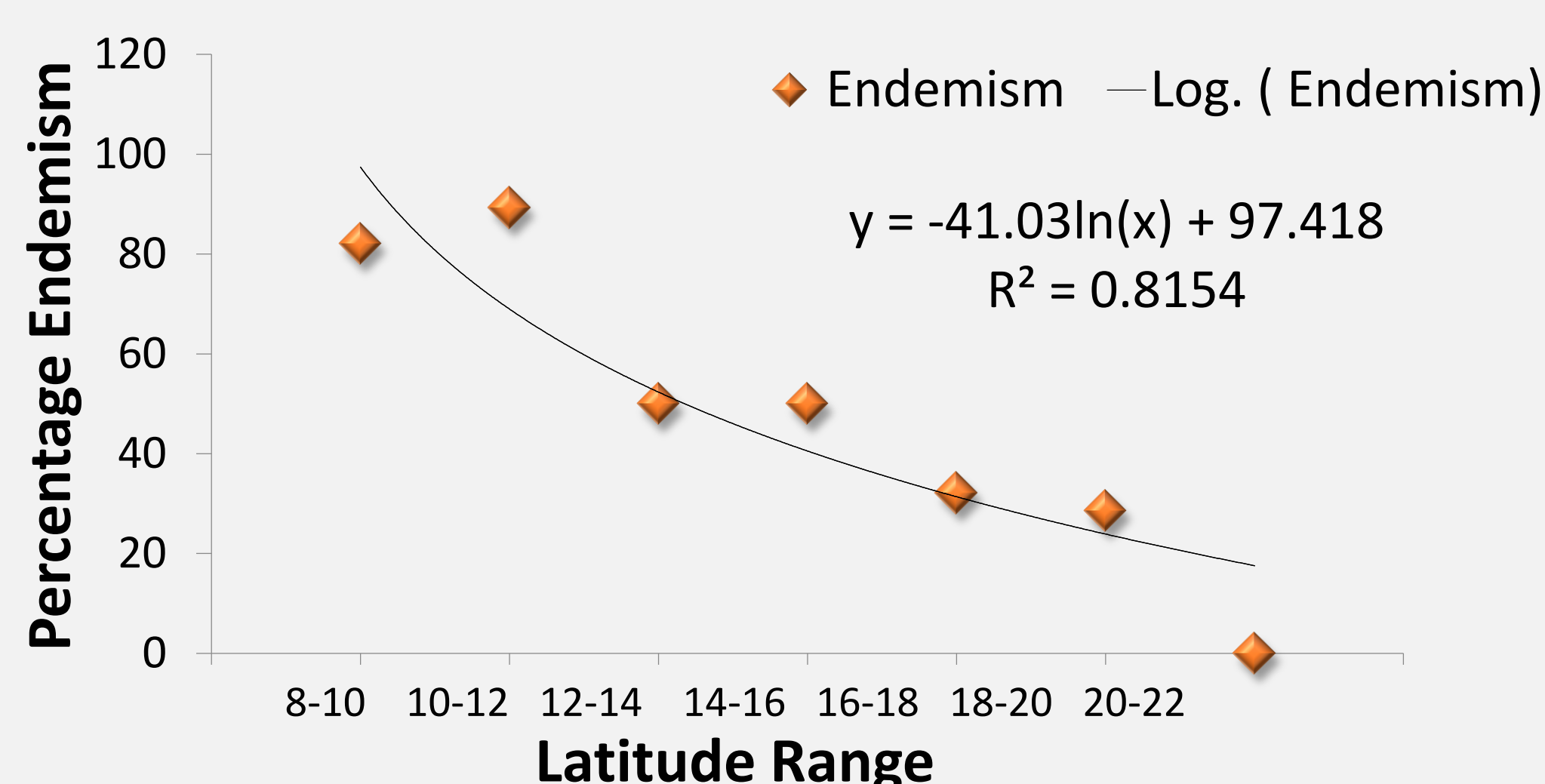
Among the 529 bird species, 28 species (5%) are Endemic to WG. The majority of endemic species belongs to the family Leiothrichidae (21%, 7sp) followed by the family Muscicapidae (17%, 5 sp) and Pycnonotidae (14%).



DISTRIBUTION OF ENDEMIC BIRDS ACROSS LATITUDE GRADIENTS

Maximum endemism was reported from the latitudinal grid 10-11° (85%, 24 sp) and no endemic species are in the ranges of 16-17°, 20-21° and 21-22°.

The endemic distribution of birds also shows a declining range in the two-degree latitudinal grid. The highest percentage endemism is estimated at 10-12° (89.28%) latitude range and lowest at 20-22° (0%).



References

- Raman, T.R., Joshi, N.V. and Sukumar, R., 2005. Tropical rainforest bird community structure in relation to altitude, tree species composition, and null models in the Western Ghats, India. *arXiv preprint q-bio/0510033*.
- Ramachandra, A.M., 2013. Diversity and richness of bird species in newly formed habitats of Chandoli National Park in Western Ghats, Maharashtra State, India. *Biodiversity Journal*, 4(1), pp.235-242.
- Praveen, J. and Nameer, P.O., 2009. Monitoring bird diversity in Western Ghats of Kerala. *Current Science*, pp.1390-1395.
- Narayanan, S.P., Boopal, A., Nanjan, S., Kurian, J., Dhanya, R., Gomahty, N., Dastidar, D.G., Rajamannan, M.A., Venkitachalam, R., Mukherjee, D. and Eswaran, R., 2006. New site record of the Yellow-throated Bulbul *Pycnonotus xantholaemus* from the Western Ghats of Tamil Nadu (India). *Indian Birds*, 2(6), pp.151-153