

Project Update: October 2017



Smith's giant gecko (*Gekko smithii*) from the Great Nicobar Island

Acknowledgements: I thank the Andaman and Nicobar Environmental Team (ANET) for facilitating field work for this project for a duration of 6 months, Department of Environment and Forests, Andaman and Nicobar Islands for providing permission to carry out this study and collect tissues for molecular laboratory work (Permit No.: CWLW/WL/134(A)/517), Andaman and Nicobar Administration for providing permission to carry out field work in Tribal Reserve Areas and the Police Department, A&N Islands for providing logistical support in remote locations.

Objectives:

1. To identify diversity in gecko species and populations distributed on the Andaman and Nicobar islands
2. To recognise factors governing patterns of genetic diversity across space (dispersal ability, barriers of dispersal, isolation-by-distance, human mediated dispersal).
3. To assess evolutionary relationships of the endemic and human commensal lineages of geckos from the Andaman and Nicobar Islands and deduce biogeographical affinities of these Islands.
4. To prioritise islands and species for conservation.

Tasks, timeline and status:

Task	Timeline	Status
Permits for the study	October 2016-January	Complete
Field data collection in the A&N Islands	October 2016-May 2017	Complete
Molecular laboratory work	May 2017-August 2017	In progress
Morphological data	July-August 2017	In progress
Preparing publications	August- November 2017	In progress
Designing and printing education material	October 2017	Yet to begin
Project final report	November 2017	Yet to begin

Summary of field data collection:

We began field work on October 26th 2016 and completed this on May 3rd, 2017. We collected a total of 441 tail tip samples and a few specimens from lesser explored islands. We conducted field surveys in ten islands of the Andaman Islands and six islands of the Nicobar Islands, they are:

Andaman Islands:

Landfall Island
North Andaman Island
Middle Andaman Island
Interview Island
Long Island
Baratang Island
South Andaman Island
Havelock Island
Neil Island
Little Andaman Island

Nicobar Islands:

Great Nicobar Island
Little Nicobar Island
Kamorta Island
Katchal Island
Terresa Island
Car Nicobar Island

We recorded seven species of geckos from the Andaman Islands and six species from the Nicobar Islands, they are:

Andaman Islands:

Andaman day gecko (*Phelsuma andamanensis*)
Andaman giant gecko (*Gekko verreauxi*)
Andaman bent-toed gecko (*Cyrtodactylus rubidus*)
Anderson's day gecko (*Cnemaspis andersoni*)
Common house gecko (*Hemidactylus cf. frenatus*)
Flat-tailed house gecko (*Hemidactylus cf. platyurus*)
Four clawed gecko (*Gehyra mutilata*)



Andaman giant gecko (*Gekko verreauxi*) in Littoral forest, Interview Island



Andaman giant gecko (*Gekko verreauxi*) sub adult, South Andaman

Nicobar Islands:

Smith's giant gecko (*Gekko smithii*)

Nicobar gliding gecko (*Ptychozoon nicobarensis*)

Forest day gecko (*Cnemaspis* sp.)

Adler's bent-toed gecko (*Cyrtodactylus adleri*)

Common house gecko (*Hemidactylus* cf. *frenatus*)

Four clawed gecko (*Gehyra mutilata*)



Nicobar gliding gecko (*Ptychozoon nicobarensis*), Kamorta Island, Central Nicobar Islands

We were not successful in recording *Hemiphyllodactylus typus* from the Andaman Islands, *Cnemaspis* sp. from the Central Nicobar Islands and *Hemidactylus garnotii* from Katchal Island (only recorded once and is not reliable) though these species have been recorded previously (Harikrishnan et. al., 2014).

New distribution records and new species to Science:

1. Potential species new to Science: forest day gecko (*Cnemaspis* sp.) from the Nicobar Islands, Andaman flat-tailed gecko (*Hemidactylus* cf. *platyurus*), Nicobar bent-toed gecko (*Cyrtodactylus* cf. *adleri*) - multiple lineages across the Nicobar Islands, Nicobar four-clawed gecko (*Gehyra* sp.).
2. New distribution records: We recorded four-clawed gecko (*Gehyra mutilata*) and forest day gecko (*Cnemaspis* sp.) from the Little Nicobar Island.

References:

Harikrishnan S., Karthikeyan Vasudevan, Abhijit Das, B. C. Choudhury, S. K. Dutta & Indraneil Das. 2014. Survey of Terrestrial Herpetofauna of Andaman & Nicobar Archipelago, Final report submitted to the Department of Environment and Forests, Andaman & Nicobar Islands.



Evergreen forest- Great Nicobar Biosphere Reserve, Great Nicobar Island