

Diversity and distribution of amphibians and reptiles in Omo Forest Reserve, Southwestern Nigeria



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INTRODUCTION & AIM

Amphibians and reptiles are important components of tropical forest ecosystems and serve as bioindicators of environmental change. However, herpetofauna diversity remains poorly documented in many Nigerian forest reserves. The Omo Forest Reserve, one of the largest remaining lowland rainforests in southwestern Nigeria, is managed under different land-use zones that vary in disturbance intensity. Understanding how herpetofauna communities vary across these zones is essential for biodiversity conservation and ecological monitoring.

Objectives:

This study aimed to:

- Assess species richness and diversity of amphibians and reptiles in Omo Forest Reserve.
- Compare species composition and distribution across three management zones:
 - Strict Nature Reserve (SNR)
 - Erin Camp
 - J4 Unrestricted Area

METHOD

Study Area (Figure 1):

Omo Forest Reserve is located in Ijebu East Local Government Area, Ogun State, Nigeria.

Coordinates: 6°35'–7°05'N, 4°05'–4°40'E

Area: ~131,907 ha

Ecosystem: Lowland tropical rainforest

Three zones surveyed were:

- Strict Nature Reserve (SNR) – highly protected forest
- Erin Camp – moderately disturbed research zone
- J4 Area – logging and plantation zone

Methodology

Survey Period: 13–17 May 2025 (rainy season)

Survey Schedule- Morning: 08:00–11:00 hrs and Night: 21:00–00:00 hrs

Sampling Methods:

Visual Encounter Surveys (VES)

Line transects (2 km per site)

Opportunistic searches

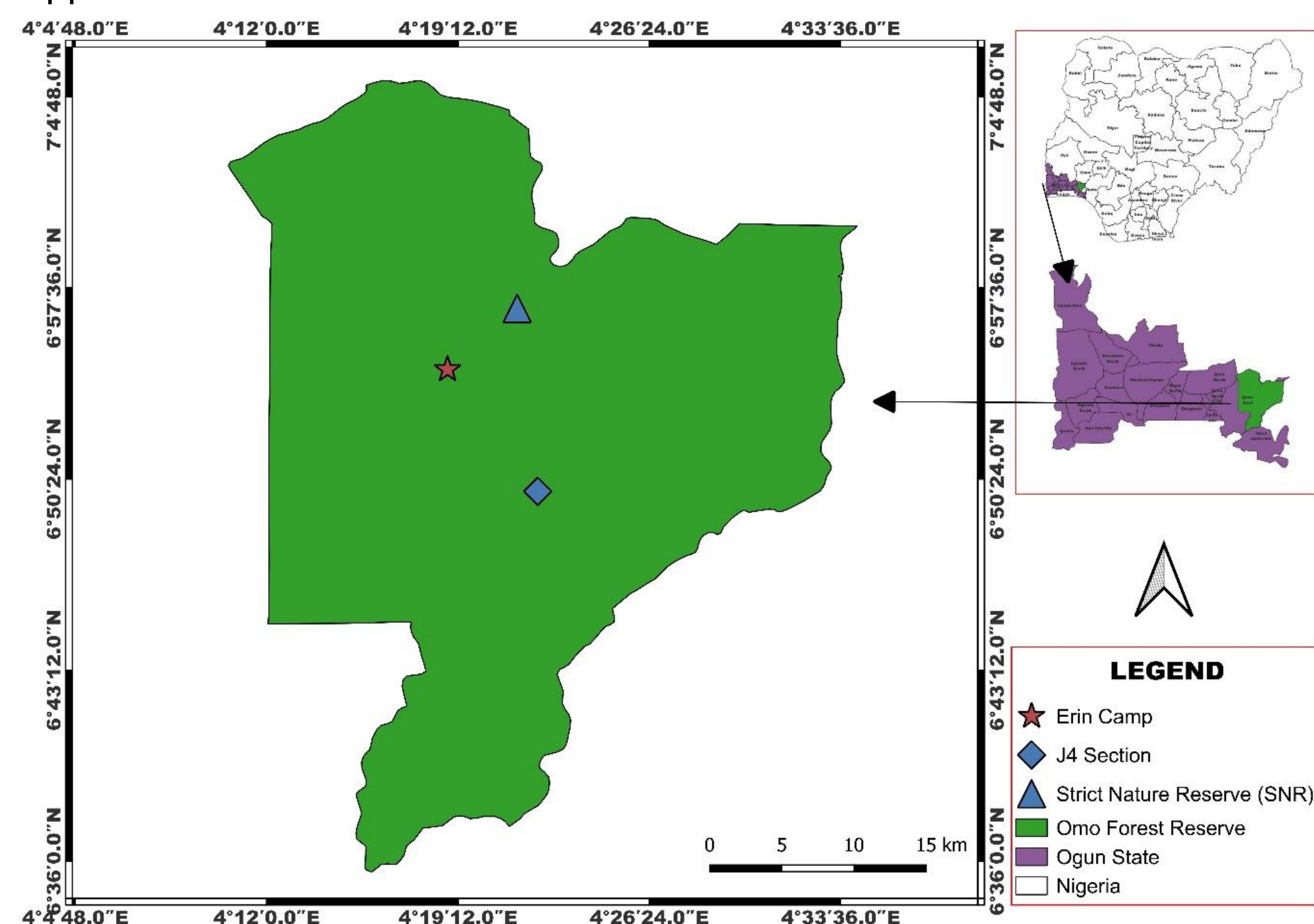


Figure 1: Map of Omo Forest Reserve showing the study area

ACKNOWLEDGEMENT

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RESULTS & DISCUSSION

Table 1: Diversity indices of the Herpetofauna of Omo Forest Reserve

Location	Group	Species richness	Shannon diversity index (H')	Simpson's diversity index (1-D)
ERIN Camp	Amphibians	9	2.047	0.852
ERIN Camp	Reptiles	10	2.175	0.873
J4	Amphibians	4	1.352	0.735
J4	Reptiles	3	1.099	0.667
SNR	Amphibians	4	1.330	0.722
SNR	Reptiles	4	1.386	0.750

Note: J4-Unrestricted area, SNR-Strict Nature Reserve

Some Amphibian species of Omo Forest Reserve



Ptychadena longirostris



Leptopelis sp



Sclerophrys regularis

Some Reptilian species of Omo Forest Reserve



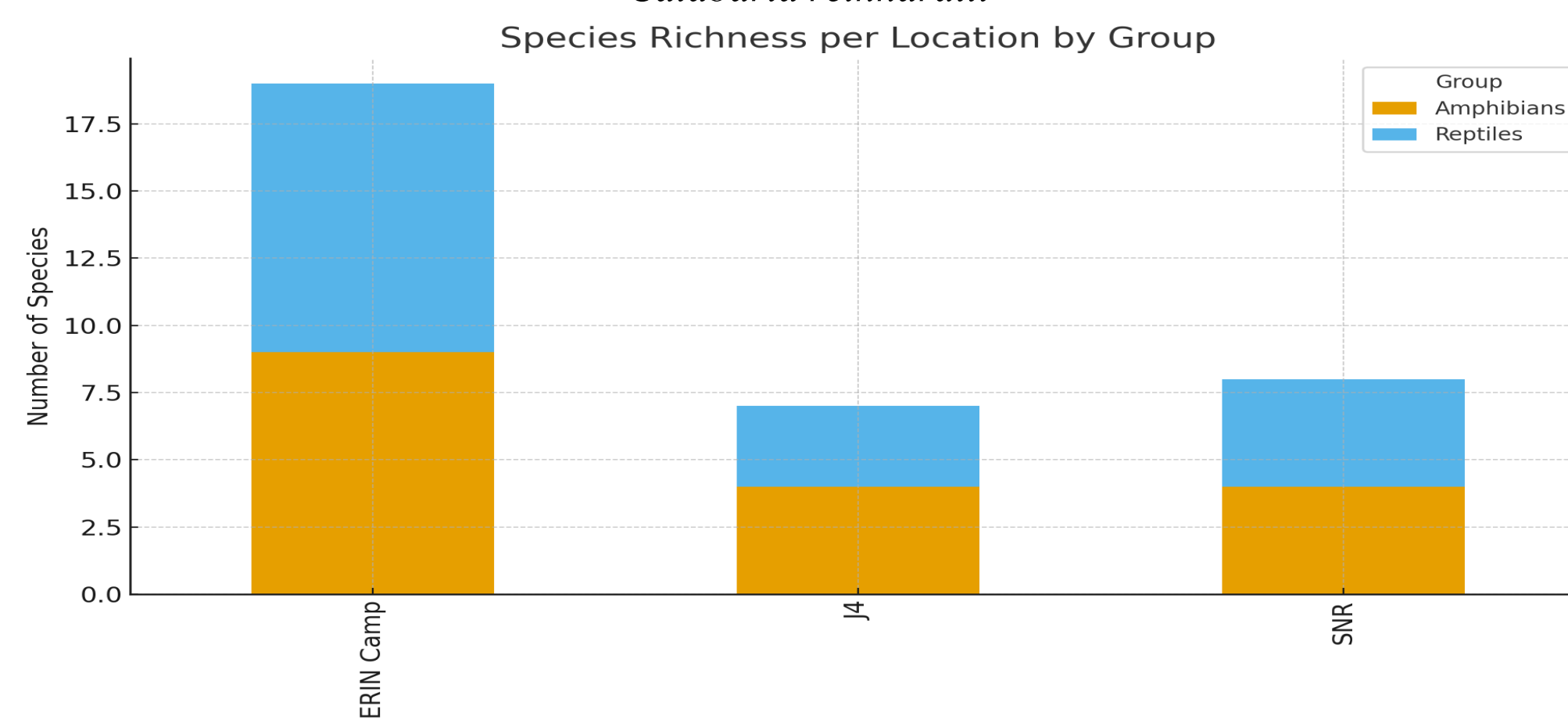
Agama gracilimembris



Calabaria reinhardtii



Trachylepis maculilabris



Note: J4-Unrestricted area, SNR-Strict Nature Reserve

Figure 2: Herpetofauna species richness of Omo Forest Reserve

CONCLUSION

Omo Forest Reserve serves as an important refuge for herpetofauna in southwestern Nigeria. Management practices strongly influence species distribution across the reserve.

The study provides baseline biodiversity data for future ecological monitoring and conservation planning.

FUTURE WORK / REFERENCES

Future studies should focus on integrating molecular approaches such as DNA barcoding and population genomics to:

- assessing genetic diversity
- identifying potential cryptic species
- understanding population connectivity among habitats within the reserve

References

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