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INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/23019

DOI URL: <http://dx.doi.org/10.21474/IJAR01/23019>



RESEARCH ARTICLE

OCCURRENCE OF SOME LACERTALIAN SPECIES (LIZARDS) FROM THEINNIKAN VILLAGE, TADA U TOWNSHIP, MANDALAY REGION

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Manuscript Info

Manuscript History

Received: 12 January 2026

Final Accepted: 14 February 2026

Published: March 2026

Key words:-

occurrence of lizard, Theinnikan village,
environmental conditions

Abstract

Investigation on the occurrence of lizard species was conducted in Theinnikan village and the surrounding area. A total of nine species, three families and five genera of lizards confined to the suborder Lacertalia and order Squamata was recorded during December 2022 to July 2023. Among the three families of lizards recorded, representatives of the family Agamidae and Gekkonidae appeared to predominant the study. Only a single species and single genus was recorded under the family Varanidae. Gekkonids and Agamids appeared as predominant lizards in the study area. Hemidactylus frenatus and Calotes mystaceus were recorded in higher number in the present study, thus regarded as dominant species. Varanus monitor was recorded in very low numbers, therefore regarded as rare in the study area. A total of 538 individuals of lizards was recorded during the study. The monthly number of lizards recorded revealed to be relatively high during December to February followed by higher numbers in June and July and the lowest number recorded during April. Thus, lizards in general are insectivorous in habit, so that the presence of a number of lizard species in the study area is assumed beneficial in a sense in controlling insect pests that caused damage to the crops. Thus, there is a need to safeguard the sustainability of the lizards and maintain the environment friendly for them to thrive.

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Introduction:-

The reptiles living today are lizards, snakes, turtles and crocodiles. Of the four surviving reptilian groups, the lizards are the most successful of modern reptiles (Goin et al., 1977). Lizards can be defined as exothermic (poikilothermic), secretive, diurnal or nocturnal, carnivorous, herbivorous, and omnivorous creatures (Tikader and Sharma 1992). Lizards also utilizes the number of habitats; most primarily live on the ground, but others may live in rocks, on trees, underground and even in water (Bauer et al. 2002). Among the various group of Reptilia, the order Squamata exhibited a distinctly different in the biogeographical pattern and Squamates (a diverse group of legged animals-lizard and legless animals-snakes) found mostly on the land masses of Gondwanan origin (Macey et al. 2000). Biological diversity can be improved by increasing the habitat size, reducing the habitat fragmentation and increasing the habitat quality through enhancing its structural diversity. Among the known 3000 lizard species in the world, about 270 species are found in the Indian subcontinent and also, in the Oriental biogeographic realm along with Southeast Asia (Wallace 1876; Mani 1974). The greatest species richness of reptiles occurs in tropical rather

than temperate regions of the world, due in part to the complexity of available habitats and microhabitats, greater diversity of prey types and prevailing climatic conditions (including a seasonality, permitting year-round activity), in addition to other factors (such as geological history). Reptiles inhabit a broad range of habitats in South-East Asia, including grasslands, freshwaters and peat swamps, dry deciduous forests, lowland dipterocarp forests, montane forests, sea coasts and coral reefs (Das, 2010). Myanmar, being a tropical country, is endowed with rich natural resources among which could be included the animals with and without back bones. In Myanmar, the following lizard families are recognized: Agamidae, Anguinidae, Gekkonidae, Lacertidae, Scincidae and Varanidae. These families include 30 genera and 90 species (Zug et al., 2003).

Aim of the Study:-

To observe and identify some lizard species found in Theinnikan village.

Objectives:-

- to collect, identify and record some lizard species
- to evaluate the species composition on the lizard species recorded

Materials and Methods:-

The present study was carried out in Theinnikan Village, Tada U Township, Mandalay Region. It lies between latitude 21° 34' 48" N and longitude 95° 54' 19" E. The study area embodied a variety of plantations including rice, peanut and assortment of vegetable. Moreover, large number of trees, bushes and thickets are present in the surrounding area. The study period was conducted from December 2022 to July 2023.

Specimen Collection:-

Lizards were searched, collected and recorded from the prospective places. Sample collection was carried out twice a month in study area. The samples were collected using insect net or manually. Specimens collected were anaesthetized by using chloroform vapor and relevant morphometric data were taken and recorded to be used in the identification. Then the specimens were preserved in 10% formalin for further reference (Appendix).

Analysis of Data:-

Species composition of the lizard species recorded was analyzed after (Bisht et al., 2004).

$$\text{Species composition} = \frac{\text{Number of individuals of a species}}{\text{Total number of individuals of all species}} \times 100$$

Results:-

A total of nine species of lizards belonging to three families, five genera under a single suborder and order was identified and recorded during the present study (Table 4.1). The descriptions of the recorded species are as follows:

General Description of Lizard Species Recorded :-

Hemidactylus brooki Gray, 1845 (Plate 4.1)

Common name - House Gecko

Local name- Ein-Myaung

Head moderate to large, snout obtusely pointed, about as long as the distance between the eye and the ear opening, tympanum oval. Body is depressed covered with small granular scales and conical, keeled tubercles arranged in more or less regular longitudinal series; ventral with smooth, rounded, imbricate scales. Limbs are moderately dilated, digits free, with oblique lamellae, first digit shortest, third and fourth fingers nearly equal. Light brown or yellowish above, with dark brown spots, usually more or less regularly arranged, a dark streak along the side of head, dirty whitish below.

Hemidactylus frenatus Dumeril and Bibron, 1836 (Plate 4.2):-

Common name - Common House Gecko

Local name - Ein-Myaung

Head large; snout obtusely pointed. Body depressed covered with small granules usually intermix with scattered, rounded, feebly keeled, or conical tubercles, ventral with smooth, rounded, imbricate scales. Limbs are moderate, digits free, moderately dilated, with oblique lamellae, five under first toe, nine under fourth, first digit shortest, third and fourth fingers nearly equal, third and fourth toe equal. Grayish, with indistinct darker markings, a distinct median longitudinal stripe arranged from the nape to the in front of the tail, yellowish below.

Hemidactylus karenorum (Theobald, 1868) (Plate 4.3):-

Common name - Karen-house-lizard

Local name - Karen-ein-myaung

Head large, snout obtusely pointed; larger than the distance between the eye and the ear opening, tympanum small, subcircular. Body depressed covered with numerous rounded conical tubercles intermixed with smaller granules, ventral with smooth, rounded, imbricate scales. Limbs moderate, digits free, dilated with oblique lamellae, first digit not half the length of the second. Grayish-brown above, with more or less distinct darker longitudinal streaks or small dark spots, whitish below.

Gekko gecko (Linnaeus, 1758) (Plate 4.4):-

Common name - House tuck -too

Local name - Ein tauk-tai

Head large, covered above with small polygonal scales, snout obtusely pointed, mental usually narrower than the rostral. Body depressed, covered with small flat scales with narrow interspaces, ventral with large, rounded, imbricate scales. Limbs moderate, digits free, with horny claws except first digit, the first digit shortest, third and fourth finger equal. Grey or violet-grey above, with numerous rusty-red and white spots arranged in seven or eight narrow transverse series. Tail with alternating bands of grey and white.

Calotes versicolor (Daudin, 1802) (Plate 4.5):-

Common name - Garden fence lizard

Local name - Poke-thin-ni (or) Tetu

Head moderate, forehead concave, two well-separated spines on each side of the back of the head above the ear, snout abruptly pointed, tympanum rounded. Body compressed, dorsal scale rather large, pointing backward and upwards, larger than ventral scales. Limbs with five slender digits, all provided with horny claws, the first digit shortest; third and fourth fingers nearly equal. Light brown or grayish (yellow) above, with more or less distinct dark brown (black) transverse bars and spots upon the back and side, dark streaks radiating from the eye.

Calotes htunwini Zug & Vindum, 2006 (Plate 4.6):-

Common name - Htunwin's Forest Lizard

Local name - Burmese-garden-lizard

Head distinct from neck; scale on sides of trunk point obliquely upwards; pair or cluster of spines in supratympanic region. Body robust, compressed; scales comprising dorsal crest small. Limbs with five slender digits, all provided with horny claws, the first digit shortest, third and fourth nearly equal. Dorsum beige to light tan; forehead speckled with dark brown; pair of dark brown, cream-centred nuchal spots with cream centres; dark brown lines radiate from orbit; indistinct middorsal stripe and broad light dorsolateral stripe.

Calotes mystaceus Dumeril and Bibron, 1837 (Plate 4.7):-

Common name - Blue Forest Lizard

Local name - Poke-thin-nyo

Head is roughly triangular in shape, the forehead slightly concave. Snout is definitely longer than the orbit. Body elongated and slightly compressed. Two pairs of limbs and having five slender digits, all provided with horny claws, hind limbs are longer than fore limbs. Dorsum is brownish-red and blue above in male, three large rusty-red-colored patches on each flank; lines radiating from the eye and one from the eye to the tympanum.

Leiolepis belliana belliana Smith 1935 (Plate 4.8):-

Common name - Beauty Butterfly Lizard

Local name - Ba-dat

Head small, with strongly curved profile, nostril large, tympanum vertically oval, a strong fold cross the throat covered with small granular scales. Body depressed, dorsal scale granular, keeled ventral large. Limbs strong moderate, claws very long, the hind limb reaches to the neck or the ear. Grayish, with pale (yellow) blacked-edged

spots and usually three more or less complete longitudinal stripes, top of head dark olive-brown, tail paler, with small spots which are confined to a median stripe, whitish or yellowish.

Varanus monitor(Linnaeus, 1758) (Plate 4.9):-

Common name-South-East Asian monitor lizard

Local name- Zaw-Ti-Ca

Head small, long neck, tongue is long and smooth bifid; nostril an oblique slit.

Body slender, juxtaposed cephalic scales, rounded or oval dorsals, quadrangular ventral in transverse rows and preanal pores. Digits elongated; first digit shortest; claws very long. Dorsum is grey with yellow bands; chin and throat with transverse black bars; tail with present transverse bands; venter cream or yellow.

Monthly Occurrence of Lizard Species and the Number of Individuals Recorded During the Study:-

During the study, out of the nine species of lizards recorded, it was revealed that four species were encountered in every month of eight months study period, followed by two species encountered during four months, a single species during three months and two species only during two months of the study period. The result on the number of species per month recorded revealed that higher number of seven species was recorded in May and June, followed by six species each during December, January, February and July; five species in April and four species during March respectively (Table 1). A total of 538 individuals of lizard species identified was recorded. Monthly total number of individuals was found to highest (77-142) during December, January and February, followed by (51-56) number of individuals in June and July. The lowest number of (28) individual was revealed in April. Species wise, Hemidactylus frenatus topped the list with (314) individuals followed by Calotes mystaceus with (71) individuals. The least number of two individuals was that of Varanus monitor (Table 2).

Percentage Species Composition of Lizard Species Recorded:-

During the study, the nine species of lizards identified revealed to be confined to three families, namely, Gekkonidae, Agamidae and Varanidae. The family Gekkonidae was represented by four species, thus amounted to 45% of species composition followed by Agamidae with four species 44% and Varanidae with only a single species represented 11% respectively (Fig 1).