STATUS OF AGAMID LIZARDS IN THE WESTERN GHATS OF TAMIL NADU, INDIA

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SALIM ALI CENTRE FOR ORNITHOLOGY AND NATURAL HISTORY
Coimbatore - 641 108, INDIA

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ABSTRACT

The Western Ghats is one of the eighteen biodiversity hotspots of the World. It is an abode for about 161 species of reptiles of which about 89 (55%) are endemic. Despite higher species richness and endemism, detailed studies on reptiles of the Western Ghats are scanty. Biological diversity, to day, is getting decimated more rapidly than ever, because of the various anthropogenic pressure. Inadequacy of knowledge on species distribution and biology restrains decision makers from taking appropriate steps for species conservation contributing to the loss of biodiversity. The major implication of lack of information is that continued habitat loss by development projects, intensified agriculture and plantation could easily have led to the species extinction before rediscovery and understanding their role in forest ecosystem. Conservation plans without proper understanding of species biology would be futile. In this background the present study was initiated to; (1) determine the present distribution and status of agamid lizards in the Western Ghats of Tamil Nadu (2) gather baseline information on their habitat and identify threats, and (3) prepare a distribution map for agamid lizards on an altitudinal gradient.

The present study was conducted in Nilgiri Biosphere Reserve (NBR), Indira Gandhi Wildlife Sanctuary (IGWLS), Srivilliputtur Grizzled Giant Squirrel Sanctuary (SGGSS) and Kalakkad - Mundanthurai Tiger Reserve (KMTR) from January to December 1995. Field surveys were conducted from 0900-1500 hrs. Visual encounter survey method was used for data collection recording all visible lizards on the surface. The following data were recorded on sighting a lizard; species, locality, vegetation type, altitude and location of the lizard above the ground. An index (Conservation Value) was worked out in a quantitative way using data on distribution and numerical status. During the present study, we could record several additional taxonomical characters for agamid species identification which have been unnoticed by earlier workers. A dichotomous key for the identification of the Western Ghats agamid lizards is prepared.

Field survey was conducted for 1059 man hours from January to December 1995 covering all seasons *i.e.* summer, monsoon and winter. In all, 2405 lizards of 11 species were recorded during the present study. Thirteen species of agamids have been reported from the Western Ghats by earlier workers. *Otocryptis beddomii* was not observed during the present study, and *Psammophilus blanfordanus* and *P.dorsalis* were tentatively considered as one; *Psammophilus dorsalis* owing to field identification problems.

The highest agamid species diversity was in NBR (Shanon-Weiner index, H'=1.68), tropical moist deciduous forest (H'= 1.73) and in 600-900 m (H'=1.79) and lowest in SGGSS (H'= 1.14), shola and montane grassland and in plains (ie. < 300 m, H'=1.0) at locality, forest type and altitude categories respectively. Encounter rate of lizards decreased from dry to wet vegetation types (3.3 to 0.7 lizards/ hour). *Sitana ponticeriana*, *Salea horsfieldi*, *S.anamallayana*, *C.grandisquamis* and *C.elliotti* are habitat specialists, largely confined to one vegetation type. All agamids of the Western Ghats, but *S. ponticeriana* and *P. dorsalis*, mostly largely arboreal. On the whole, the agamid communities appear to vary at various spatial levels as indicated by lower overlap indices. Analysis shows that *O.beddomii* and *S.anamallayana* are Critically Endangered as these species obtained high Conservation value (Cv = >90) and they should be listed in Schedule I of the Indian Wildlife Protection Act 1972. *S.horsfieldi*, *C. grandisquamis*, and *C.nemoricola* are Endangered (Cv = 76-90). *P.dorsalis* and *C.versicolor* could be considered as Lower Risk species because of their lower Conservation value (CV=<50). Suggestions for the conservation the agamid lizards are provided.