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Diversity of Saurian fauna in the Buldhana district, Maharashtra, India

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ABSTRACT

The present report provides knowledge about the diversity of Saurian fauna in the Buldhana district of the Indian state of Maharashtra as a model geographic area to promote conservation management. The presented study is based on the field work carried out in the study sites during February 2014 to January 2015. The study revealed the presence of 14 Saurian species belonging to 5 families dominated by Gekkonidae (43.05%), Scincidae (29.15%), Agamidae (21.35%), Varanidae (6.1%), and Chamaeleonidae (0.35%). The relative dominance of species varied with different months, apparently indicating that the Buldhana district has a healthy environmental and demographic setup that accommodates rich Saurian diversity.

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Introduction

The biological diversity of the earth and its origins has long been a source of amazement and curiosity (Tantarapale 2015). The study of biological diversity encompasses both the intrinsic and anthropocentric values associated with it. The values of the biological elements are recognized in correspondence to the perceived importance by the human being, which is realized in terms of the ecosystem services (Daily 1997; Baumgartner 2007). Biological diversity is the base for upholding the ecosystems and the functional aspects of the species that provide goods and services for human well-being. Monitoring of species diversity of a region enables estimation of the prospective functional roles of the species. In any ecosystems, monitoring species diversity can be used as a tool to reduce human mismanagement and pollution in urbanized, industrial, rural, and other managed areas (Wilson 1997). Extending this view, studies on species diversity in any ecosystems are necessary to understand the effect of anthropocentric development on the integrity and sustenance of an ecosystem.

The diversity of reptiles has been emphasized in many studies owing to their dominance in the terrestrial and aquatic ecosystems and provision of ecosystem services such as pest control and ecological maintenance (Joshi 2014). Among reptiles, saurian fauna is a diverse group that changes from the primitive to the specialized, phylogenetically, and their structural modifications exhibit

greater variations than any other group of reptiles (Smith 1935). Lizards are members of the suborder Sauria which is one of the two suborders of the order Squamata (Class: Reptilia). They are poikilothermous, insectivorous, and oviparous to ovoviparous (Matthew 2007). Presently, lizards are one of the most diversified groups of vertebrates that have ever lived on earth over the past 250 million years. Over 5,000 species of lizards have lived on earth, inhabiting a variety of habitats ranging from the highest mountainous peak to the low-lying terrestrial and aquatic habitats (Lalrinchhana et al 2015). South Asia, including the Indian subcontinent, is the home for herpetological diversities in the tropical region with India harboring 228 Saurian species in different biophysical zones (Venugopal 2010).

In this context, the conservation of lizards is necessary to sustain varied kinds of ecosystem services for human well-being. In view of the essential ecosystem services rendered by lizards and to promote conservation management, the present study was aimed at the estimation of the saurian diversity in the Buldhana District, Maharashtra, India. The results of the study are expected to supplement the necessary information on the conservation management and enhance the ecological roles of the saurian species in the Buldhana District and similar geographical regions.

Materials and methods

Study area

The Buldhana district (Figure 1) is one of the most diversified regions in Maharashtra State of India, with respect to biodiversity.

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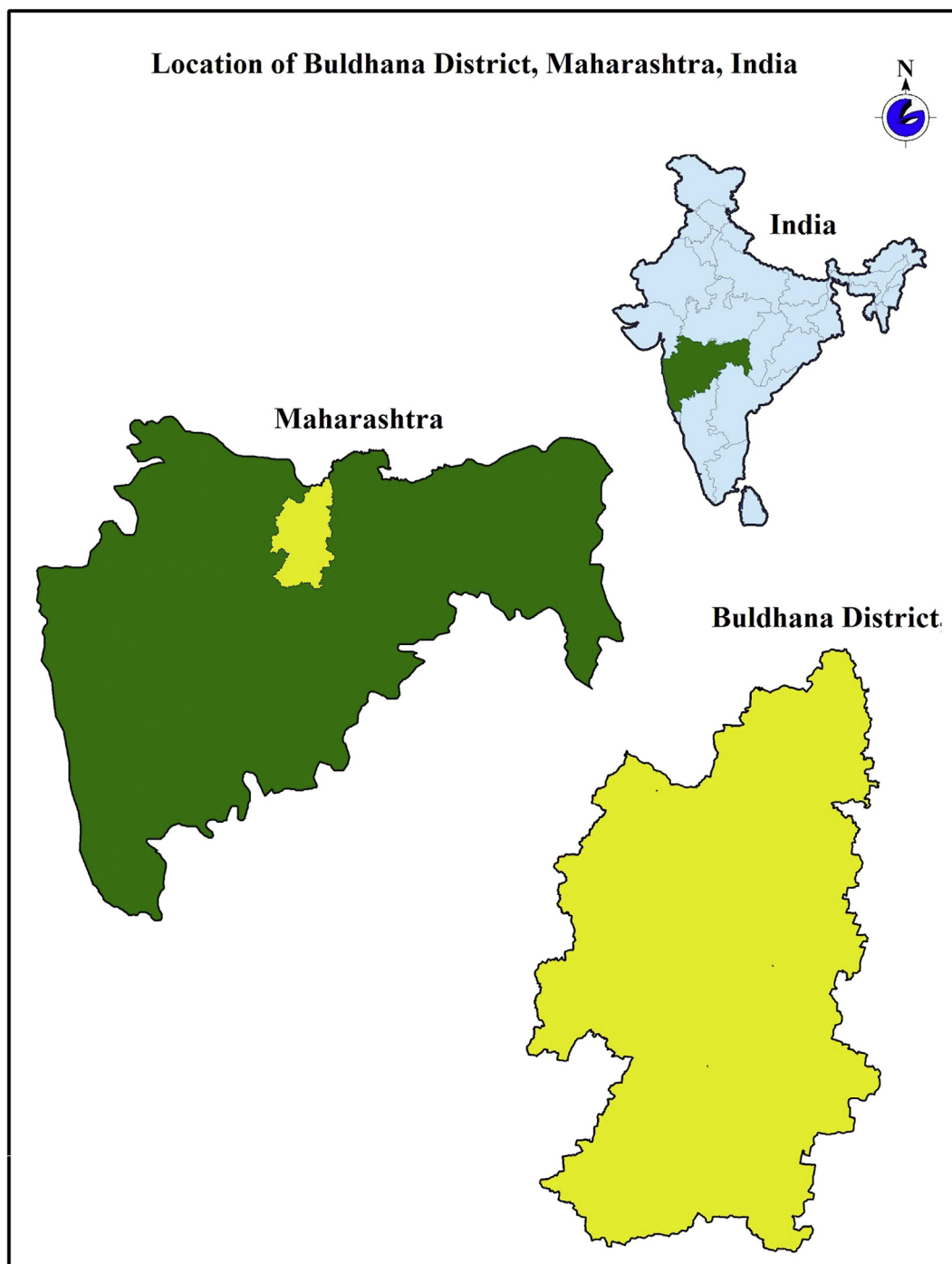


Figure 1. Buldhana District, Maharashtra, India.

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