

EPIPHYTIC PTERIDOPHYTES OF ARUNACHAL PRADESH (INDIA)

VINEET KUMAR RAWAT¹, SHAKIL D. SHAIKH², PURUSHOTTAM KUMAR DEROLIYA¹, V.B. CHOPADEV³ AND BHARAT JADHAV⁴

¹ Botanical Survey of India, Arid Zone Regional Centre, Jodhpur, Rajasthan

² Department of Botany, Rajarshi Chhatrapati Shahu College, Kolhapur

³ Department of Botany, SGM College, Karad

⁴ Department of Botany, Balassaheb Desai College, Patan

ABSTRACT

Arunachal Pradesh is the most North-easterly state of India, with Bhutan to the West, Myanmar to the East, Tibet to the North and Assam in the South. Pteridophytes represent a diverse group of plants which forms an interesting and conspicuous part of the forest ecosystem. The present research studies the species diversity and composition of epiphytic ferns and fern allies from Arunachal Pradesh. Polypodiaceae is the most dominant and diverse followed by Pteridaceae. The number of species was plotted against different altitudinal gradients which resulted in hump-shaped species distribution pattern. Maximum number of species richness was recorded from the mid-altitudinal range. Results show that bigger host trees having rough bark texture generally sheltered maximum species compared to trees having smooth bark. Additionally, the life form and threat status of fern and fern allies have also been assessed.

Keywords. *Polypodiaceae, Epiphytic ferns, Habitat, Altitude,*

INTRODUCTION

Pteridophytes represent a diverse group of plants which forms an interesting and conspicuous part of the forest ecosystem. Epiphytic ferns are mostly occur in the tropics and they are necessary and fragile members of humid forests, such that their diversity can be seriously affected by any form of disruption in the forests (Hietz *et al.*, 2006). The pteridophytes perform several critical ecological functions as indicator plants for habitat loss and fragmentation (Silva *et al.*, 2018), improving soil conditions

(Walker, 1994) and also in removing inaccessible arsenic from mined wastelands (Tu and Ma, 2005). Furthermore, they are known to adapt to various disturbances and accumulate toxins from the environment (Mehltreter *et al.*, 2010). Normally, epiphytic fern diversity is higher in the primary forest than in disrupted habitats (Hickey, 1994). In this context, the present study examines the species diversity and composition of epiphytic ferns and fern allies in Arunachal Pradesh. The high rainfall in Arunachal Pradesh, the most Northerly occurrence in