DIVERSITY OF ANGIOSPERMS IN BIHAR – AN OVERVIEW

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The state of Bihar is located in the eastern part of the India. It lies between 21°58′–27°31′ N latitudes and 83°19′–88°17′ E longitudes, and covers an area of 94163 km². It is situated between humid West Bengal and subhumid Uttar Pradesh in the east and west, respectively. Bihar is bounded by an international boundary of Nepal in the north and Jharkhand in the south. The state is divided into two unequal halves by the river Ganga, which flows through the middle from west to east.

Bihar enjoys monsoon type of climate and is characterised throughout the state by a dry and comparatively cool season from the middle of October to the middle of February when the mean daily temperature varies from 7°C to 10°C, dry and hot summer from February to usually sometime in June or July when mean daily maximum temperature rises up to 48°C, and warm wet season (monsoon) from June or July to September. The rainfall is derived mainly due to south-west monsoon and highest rains are recorded in July and August. The average annual rainfall ranges from 100 to 150 cm.

The state comes under Indo-Gangetic plain biogeographic zone (Rodger & Panwar, 1988) and characterised by flat alluvial region, which has been under continuous and intensive cultivation. The state has about 5720 km² of total forest cover, including 3372 km² dense forest and 2348 km² open forest. The forests in the state can be broadly categorised into tropical moist deciduous forest, tropical dry deciduous forest and grasslands (Champion & Seth, 1968). The tropical moist deciduous forest is dominated by ‘Sal’ (*Shorea robusta*) that occurs in the Himalayan foothills towards extreme north-western boundary. The tropical dry deciduous forest covers the maximum forest areas of the state, an open type of forest that remains leafless during the dry season. According to National Wildlife Database Cell (http://wiienvis.nic.in/), Bihar has 1 National Park, 12 Wildlife Sanctuaries and 1 Tiger Reserve, covering about 3% of total geographical area of the state.
The vegetation is mainly tropophilous, and rich in plant diversity. A number of botanists in the past have botanically explored the region to document the existing plant diversity. Anderson (1863) published an account on the flora of Bihar based on the collection of Hooker, Edgeworth and Thomson and also of his own. Haines (1921–1924) published his monumental work entitled ‘Botany of Bihar and Orissa’, an account of all the known indigenous plants of the province and of the most important or most commonly cultivated exotic ones with maps and introduction in six parts. Mooney (1941, 1950) made additions and supplement to the Haines’s Botany of Bihar and Orissa. Later, Saxena (1976, 1978) and Varma & Jha (1992) also made additions to the flora of Bihar and Orissa. Numerous publications (Paul, 1967, 1973; Mishra & Agarwal, 1969; Jain & al., 1975; Raizada, 1978; Misra, 1980; Varma, 1981; Singh, 1985; Singh, 1986; Bhattacharya & Sarkar, 1998) either as district floras or checklists of plants of different areas in the state have been brought out. “Flora of Bihar – Analysis” by Singh & al. (2001) reports a total of 2963 taxa under 1151 genera and 186 families of the angiosperms including 16 endemic taxa, confined to the political boundary of the state, and 28 taxa endemic to India. The analysis also reports occurrence of 79 rare taxa in the state. The flora of the state also comprises about 200 well-known medicinal plant species (Das & al., 1999).

Habitat destruction is the principal cause for the loss of biodiversity. Anthropogenic activities, such as encroachment and conversion of forest areas into agricultural lands, and construction of dams and roads, and overexploitation of biological resources, pose threat to the existing biodiversity of the state. There should be strict enforcement of rules and regulations to protect and conserve the biodiversity. The state government has to promote activities and efforts for the maintenance of biodiversity in the state. The biodiversity rich zones in the state may be declared as Protected Areas to conserve the existing flora and fauna. The Forest Department should create awareness by educating the local communities about the importance of conserving forests and environment and sustainable utilization of biological resources for the sustenance and posterity of human beings and make them involve in conservation activities.

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REFERENCES


