

OF FRUGIVORY AND FALLBACK FOODS: FORAGING ECOLOGY OF THE HIGH-ALTITUDE ARUNACHAL MACAQUE IN NORTHEASTERN INDIA

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The Arunachal macaque *Macaca munzala* occurs largely in sub-tropical to temperate environments at elevations of c. 1,800–3,000 m in Arunachal Pradesh, northeastern India. We studied the foraging ecology of this species, including its over-wintering strategy, by comparing the diet, ranging, and behaviour of three troops during summer, winter and spring (July 2005 to May 2006), principally through instantaneous scan sampling. The macaques spent more time (41–66%) feeding in the winter than in spring or summer (29–51%), whereas time spent moving and resting was greater during the warmer months. The diet comprised largely of plants, with animal matter being eaten rarely. The number of plant species in the diet increased from 18 to 25 whereas food types rose from 18 to 40 from winter to spring-summer, respectively. Only two species served as fallback foods and formed 75% of the winter diet for one of the troops. The availability of fruits and young leaves increased in spring, and for two of the study troops, fruits of only two species comprised 88% of their summer diet. Our results thus suggest that the ranging and foraging behaviour of the Arunachal macaque appears to be largely regulated by food resource availability, while seasonal changes in time-activity budgets are explained by the scarcity of food in winter. The species also inhabits a highly seasonal environment and has an over-wintering strategy that includes subsisting on a high-fiber diet by increasing the time spent feeding and minimising energy expenditure by reducing the time spent moving.

Keywords: Diet, food availability, time-activity budget, seasonality