

Part 2 Breed-creating Efficiencies of

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The honeybee, *Apis cerana*, is distributed all India. Owing to the vast climatic diversity of the region different populations of *A. cerana* have evolved naturally.

These geographic populations or ecotypes show morphological uniformity and are intercrossed with each other. They often exhibit variations in behaviour with respect to biological and ecological characteristics (Bhatnagar, 1987). These differences are important to the beekeeper because they relate to a variety of honeybee behaviour and crop productivity. Correlations have been found in differences in brood cycles, growth of brood and brood-nest arrangement, swarming tendency and nesting material, wax production, winter storage and temperament (Ghosh, 1974).

Information available on brood-creating by different populations of *A. cerana* is meagre. Earlier studies have been conducted in different geographical regions but as yet the figures available are variable (Bhatnagar, 1987; Kapat, 1988; Ghosh and Waj, 1982; Bhatnagar and Bhatnagar, 1981; Verma et al., 1980). The present study was therefore

designed and conducted with populations of *A. cerana* from three different geographical areas at a colony location or the other factors being similar, the brood-creating efficiency of the populations could be compared.

Materials and Methods

The study was conducted at the University of Jammu research and demonstration colony. This is located at 1,250 m and lies between 31°30' N, 74°30' E. Colonies of *A. cerana* were kept at an altitude of about 2,700 m in Himachal Pradesh, Kashmir and Garhwal. Ten colonies each from Himachal Pradesh and Garhwal and five from Kashmir were maintained separately. They were brought to equivalent status with respect to bee strength, brood and stores. Each colony was queen-right and had a newly mated queen. Brood-creating efficiency was studied in terms of area under brood (comprising eggs, larvae and sealed brood) and productivity of the queen. Observations were recorded at intervals of 11 days during spring, summer and post-monsoon.