CHAPTER VI
The present work attempts to describe toe and plantar dermatoglyphic features in five endogamous groups of Punjab with a view to filling an important gap in knowledge of dermatoglyphic variations of different populations of the Indian regions. The data on these five endogamous groups of Punjab namely Jat Sikh, Bania, Chimba, Ramdasi & Balmik were collected from various educational institutions of district Mansa (Pb), India. The data thus collected were subjected to statistical treatment and analysis of variations of plantar ridge configurations in this region.

TOE PATTERNS

Distribution of pattern types on toes show that fibular loops appear relatively more frequently in all castes except for Chimba where arches are predominant. Whorls are least frequent pattern type among all the caste groups. Order of occurrence of pattern types in pooled data is loops > arches > whorls.

Bilateral differences are seen with respect to arches and loops in both males as well as females. Analysis of bisexual differences suggests that whorls follow the usual trend of occurring more frequently in males than in females.
These findings are also reflected in the values of pattern intensity index which indicate that complexity of patterns is more in males than in females.

**TOE RIDGE COUNTS**

Digit wise ridge count analysis shows that in both sexes digit III has the highest ridge count and digit V the lowest ridge count in all the five groups examined. Significant differences are observed for total and absolute toe ridge counts in only three groups i.e. Chimba, Ballmik & Ramdasi, Inter-group comparison for each sex with respect to ARC & TRC shows that differences are found to be more significant in males than in females.

**PLANTAR PATTERNS**

All caste groups under study show maximum frequency of true patterns in the hallucal region and the lowest frequency of true patterns in interdigital IV area. Interdigital III and distal hypothenar areas register moderately high frequency of true patterns. Loopdistal is the main form of pattern type encountered in all interdigital areas while in hypothenar area loop tibial is the most frequent pattern type.

Analysis of Inter-caste differences in the incidence of true patterns reveal significant differences (irrespective
of sex & side) in Bania in comparison with other four caste
groups for hallux and distal hypothenar area. Like-wise
Chimba show significant departure from all four groups
barring Jat Sikh for incidence of true patterns in
interdigital IV area.

PLANTAR RIDGE COUNTS

The highest mean ridge count is observed on hallucal
area and the lowest ridge count is recorded in interdigital
area IV in both sexes of all five Punjabi caste groups.
Statistically significant intercaste differences are
observed in both males as well as females.

PLANTAR MAINLINE TERMINATIONS

Tibial type is found to occur with high frequency for
all main lines of all the groups. Analysis of bisexual
differences show that for all main lines except A the tibial
type is more frequent in females, whereas the fibular and
proximal types are more prevalent in males. Main lines C, B
and A register bilateral differences for two maintypes i.e.
tibial & fibular. Another notable feature relates to the
absence of mainlines A and B. ($54-214$)
INTER-POPULATION COMPARISON

Inter-population comparison shows important differences in plantar dermatoglyphic configurations in major ethnic groups such as Negroids, Europoids and Mongoloids. These differences are also reflected to some extent in the Indian region. Analysis of toe and plantar pattern types in five Punjabi caste groups of the present study reveals differences of relatively lesser order among themselves but, on the whole, show variations comparable to Europoid group. The Mongoloid population of the North-West India such as Tibetans and Bhotias, on the other hand show a distribution pattern which differs in some important respect from that of the non-mongoloid population of the Northern India.